



STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND
BUDGET
FACILITIES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION

MAJOR PROJECT DESIGN MANUAL

FOR

PROFESSIONAL SERVICE CONTRACTORS,

STATE UNIVERSITIES, COMMUNITY COLLEGES,

AND

STATE AGENCIES



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Acronyms used in this document:

DMB: Department of Management and Budget, State of Michigan

JCOS: Joint Capital Outlay Subcommittee, Legislature of the State of Michigan

DMB-FA: Department of Management and Budget, Facilities Administration, Design & Construction Division

SBA: State Building Authority, Department of Management and Budget

U/CC: University or Community College

PSC: Professional Service Contractor, Professional Architectural and/or Engineering firm

PURPOSE

This document outlines the requirements for planning major capital outlay design and construction projects for agencies and consultants and lists other requirements for State of Michigan buildings.

CAPITAL PLANNING PROCESS – FUNDING, REVIEW AND AUTHORIZATION OF MAJOR CAPITAL OUTLAY PROJECTS

The Capital Planning Process centers primarily on the acquisition, design, construction, renovation, and maintenance of capital projects estimated to cost \$1 million or more. This process is put in place to ensure value to the State of Michigan, State Agencies, and State Colleges and Universities. The Capital Planning Process outlines the manner in which projects are planned, funded, and authorized. The reviews and approvals within the process provide the mechanism for ensuring high quality projects with appropriate disbursement of State of Michigan assets.

Projects flow through the process in the following sequence. Details of submittal requirements are contained in Appendices.

PLANNING FUNDING AND AUTHORIZATION PHASE:

Step 1: Capital Outlay Request: State Agencies, Universities, and Community Colleges develop a five-year capital outlay plan. Requests for projects exceeding \$1,000,000 are submitted annually to the Department of Management and Budget (DMB) with justification and other information as requested by the DMB Budget Office.

- The DMB Budget Office reviews the capital outlay requests, and if approved, includes the request in a planning authorization bill. The Executive Budget contains planning authorizations.
- For University/College (U/CC) projects, programming and schematic design is performed at the University's or College's expense. The Legislature may appropriate up to \$100 from the State's General Fund. For State Agencies, the planning authorization appropriates monies for programming and schematic design purposes. It is important to note that legislative planning authorization does not guarantee final State support for a project. Also, while a planning authorization may be approved through a legislative initiative or planning authorization bill, the Governor may line-item veto a project. Cost incurred prior to planning authorization cannot be credited to the project appropriation or total project cost.
- For State Agencies, projects must be requested as total projects; a single project may not be split into several smaller projects of less than \$1M in order to circumvent the capital outlay planning limit.
- If the total project cost is to be shared between a U/CC and the State of Michigan, agreement on the share shall be obtained as part of the initial planning authorization process.
- Projects must comply with the Joint Capitol Outlay Subcommittee policies.

Step 2: Legislative Authorization: A line item must appear in a planning authorization bill providing for the preparation of a program statement and schematic planning.

- Following this authorization, the U/CC or State Agency has three years to submit the program and schematic plan to the DMB Budget Office. If the Budget Office agrees that there is State support for the project, the program and schematic plan is submitted to the DMB Facilities Administration Design and Construction Division (DMB-FA) for approval and submittal to the Joint Capital Outlay Subcommittee (JCOS).

- A U/CC may request that the DMB-FA manage the project at this stage. The U/CC should notify the DMB-FA in writing within 30 days of legislative planning authorization whether the project will be self-managed or request DMB-FA management.
- Authorizations with multiple buildings and/or phases may be considered separate projects and will be assessed separate fees.
- The DMB-FA or the U/CC, through a competitive selection process, selects a professional service contractor to prepare the program and schematic documents. DMB-FA, Universities, and Community Colleges are required to use a competitive selection process for both professional service contractors and construction management firms. For U/CC projects, the U/CC shall provide a letter to the DMB-FA Project Manager describing the selection process used and its results, or shall include a description in the program/schematic submission.

PROGRAM STATEMENT AND SCHEMATIC DESIGN PHASE:

Step 3: Programming and Schematic Design Planning: The Professional Service Contractor prepares a project program and schematic design with Facilities Administration, Design and Construction Division and the State Agency or the U/CC. A U/CC with appropriate professional staffing may prepare its own project program, but will need a Professional Service Contractor to prepare the Schematic Design.

- The Program Statement and Schematic Design establishes the total project cost for inclusion in an appropriations act. The project must appear in an appropriations act as a line item to complete final design and construction prior to commencing the preliminary design and planning.
- Requirements of the Program/Schematic Design Submission are Appendix 2 of this Manual.
- The Program and Schematic Design must conform to the Space Utilization Guidelines in Appendix 3 of this Manual.
- Professionally prepared programs shall be done in accordance with the procedures and process as outlined in the American Institute of Architects "Manual of Professional Practice," chapters on programming, pages 603 through 615, inclusive. Programs shall also contain information as required in Appendix 2 of this Manual.
- Schematic Design Planning shall establish the scope and nature of the proposed project in accordance with the Major Project Design Manual and construction requirements of the State of Michigan and the U/CC and applicable codes. The Schematic Design Planning will form the basis of the total project cost and the appropriation of line item monies to complete final design and construction.
- Data Sheet formats and Area Calculations are found in Appendix 7.

Step 4: Program/Schematic Design Review: DMB Budget Office evaluates the Program/Schematic Design Submittal for conformance with the Capital Outlay request and bonding availability, and confirms that the project meets State priorities. If acceptable, the DMB-FA will review the submittal for conformance with the Design Guide, Building Requirements, and assesses the proposed schedule and Total Project Cost.

- If acceptable, the DMB-FA recommends the Program/Schematic Design Submittal to the Budget Office for submission to JCOS for approval. If approved through JCOS, the Total Project Cost is included in an appropriations act to provide for final design planning and construction. The appropriations act must pass through the House, the Senate, and be signed by the Governor to be passed in final form. Another \$100 authorization from the General Fund may be appropriated as part of the Total Project Cost in the appropriations act.

- After passage of the appropriations act, the DMB-FA authorizes the U/CC or the Professional Service Contractor to proceed to the Preliminary Design Phase.

PRELIMINARY/DESIGN DEVELOPMENT PHASE:

Step 5: Project Management Agreement: Universities and Colleges self-managing a project enter into a Project Management Agreement with the DMB outlining their duties and responsibilities. A sample Management Agreement is Appendix 4 of this Manual.

- Universities and Colleges will be required to submit several deliverables during this phase. These are:
 - Local Share/Matching Funds: Certified letter from the U/CC to the Director of the DMB certifying available matching funds. The “Local Share” of the Total Project Cost must be expended first. A draft of this letter is attached to the Project Management Agreement and is found in Appendix 4.
 - Proof of Ownership of Subject Property from the U/CC to the State Building Authority: Certified letter from the U/CC to the Director of the DMB certifying that the U/CC owns the property proposed for construction. Verify that the boundary of the property to be bonded in the proposed project does not overlap property currently bonded. A draft of this letter is attached to the Project Management Agreement and is found in Appendix 4.
 - Phase I Environmental Survey from the U/CC submitted to the State Building Authority and the DMB-FA. If the Phase I Environmental Survey indicates a contaminated site, the U/CC must indicate the steps it proposes to take to ensure a clean, uncontaminated site. The cost of the Phase I Environmental Survey and any site remediation or cleanup is not an Allowable Project Cost. Consult with the DMB-FA if the project is interior remodeling only.
 - Monthly Design Progress Report: A brief report from the U/CC submitted to the DMB-FA. Describe the progress of the preliminary design and documentation, outlining any issues and including design progress meeting minutes. This report will keep the DMB-FA informed of schedule changes and design and budget issues. This report may be provided in hard copy or via e-mail and can be waived if the DMB-FA agrees to the request.

Step 6: Preliminary Design and Planning Submittal: The Professional Service Contractor and the user agency or U/CC prepare the Preliminary Design and Planning Submittal.

- This submission further refines the planned project, continuing the direction established during Schematic Design. The Preliminary Design Submittal provides more detail and definition; allowing a check on compliance with the approved Schedule, Total Project Cost, Design Guide, Capital Outlay Manual and Building Requirements of the State of Michigan.
- Requirements of the Preliminary Design Submittal are Appendix 5 of this Manual.

Step 7: Preliminary Design Review: The DMB-FA reviews the Preliminary Design Submittal. The DMB-FA may elect to use the services of an Audit Consultant to assist with this review. The cost for the audit consultant is taken from the DMB fee.

- If disapproved, the DMB-FA will discuss issues with the user agency to help gain resolution.
- If approved, the DMB-FA forwards an approval letter to the user agency authorizing them to proceed to Final Design/Construction Documents. Copies of this letter are forwarded to the Budget Office and the State Building Authority.

FINAL DESIGN/CONSTRUCTION DOCUMENTS PHASE:

Step 8: Final Design and Construction Documents: The Professional Service Contractor and the user agency prepare the Final Design and Construction Documents.

- The Final Design and Construction Documents document the proposed project to the level of detail required for effective bidding and construction and form the basis of the construction contract. The Final Design and Construction Documents also include a construction cost estimate.
- For State Agencies, the construction documents are prefaced by the MICHSPEC™ (State of Michigan Owner-Contractor Model Documents) specification; this establishes the relationships, during construction, of the State, the Professional Service Contractor, and the Construction Contractor.
- Self-managing Universities/Colleges may use their preferred construction specification form and contract.
- All major Capital Outlay projects, whether for Universities/Colleges or for State Agencies, must be bid using Prevailing Wages, whether managed by Universities/Colleges or by the DMB-FA. Additionally, all major Capital Outlay projects must include the State project sign (see Appendix 8).
- Monthly Design Progress Report: A brief report from the U/CC submitted to the DMB-FA. Describe the progress of the final design and documentation, outlining any issues and including design progress meeting minutes. This report will keep the DMB-FA apprised of schedule changes and design and budget issues. This report may be provided in hard copy or via e-mail and can be waived if the DMB-FA agrees to a request.

Step 9: Final Design/Construction Documents Review: The DMB-FA reviews the Final Design/Construction Documents Submittal. The DMB-FA may elect to use the services of an Audit Consultant to assist with this review, with the cost for that consultant coming from the DMB Fee. Two sets of construction documents, including Specifications, are required for review.

- If disapproved, the DMB-FA will discuss issues with the user agency to help gain resolution.
- If approved, the DMB-FA forwards an approval letter to the U/CC authorizing bidding, or proceeds to bidding in the case of a State Agency. The U/CC may not bid without this approval. Copies of this letter will be forwarded to the Budget Office and the State Building Authority.

BIDDING AND AWARD PHASE:

Step 10: Bid Tabulations: The tabulated results of bidding, including all bidders, are reviewed by the DMB-FA. These are provided by the U/CC to the DMB-FA or produced by the DMB-FA in case of a State Agency project. The requirement for bid tabulations extends to the selection of construction management firms and the subcontractor bids taken by the construction management firms. The results are forwarded to JCOS when the project is completed.

Step 11: Construction Contract Award: If bidding results are acceptable, the DMB-FA authorizes the U/CC to award the construction contract, or awards the construction contract in case of a State Agency project.

CONSTRUCTION PHASE:

Step 12: Administer Construction Contracts: DMB-FA or the U/CC, through its Project Management Agreement, administers construction contracts.

- Monthly Reports: During construction, beginning with the first construction contract, the self-managing U/CC is required to report progress, encumbrances, change orders, schedule and expenditures to the DMB-FA in monthly reports. Requirements for monthly reports are found in Appendix 4.
- Direct Payments and Expenditure Reporting: The U/CC is requested to report, on a monthly basis, their direct project payments. If these payments are reported from the project's start, they are recorded as journal entries; the eventual reimbursement is thus made simpler and quicker. When the U/CC has met its spending match, full or partial reimbursement for direct payments are made as part of the Total Project Cost. These requests must be detailed for review by the DMB-FA. Certain expenditures may not be included as part of the Total Project Cost. Should expenditures be denied or questioned, the report and reimbursement request will be returned to the U/CC for revision and the request must be re-submitted before any payment may be authorized. An example of a monthly expenditure report is attached to the Project Management Agreement and is found in Appendix 4.
- A list of charges allowed and disallowed against the total authorized cost is found in Appendix 6. Reimbursements may be made up to 23 months after substantial completion of the project, as determined by the issuance of a Certificate of Tenantability.

LEASE AND BONDING PHASE -- FINANCING WITH THE STATE BUILDING AUTHORITY:

Step 13: Funding for Construction-in-Progress: In order for State Building Authority (SBA) financing to occur the following steps must be accomplished.

- The DMB-FA will notify the SBA of the start of project construction, whether the U/CC or DMB-FA manages the project. After notification, SBA prepares the Project Lease. Information that will be needed:
 - Project Budget (see attached example of exhibit A) - from U/CC
 - Project Description – in brief (one or two paragraphs, including building area) – from DMB-FA Project Manager
 - Legal description – from U/CC
 - Project completion date – from U/CC
 - Architect and Contractor names and addresses - from U/CC
 - Rental Range (SBA will obtain from an independent appraiser)

Step 14: Concurrent Resolution of the House of Representatives and the Senate approving the Lease: In order for the SBA to proceed with the Lease to the legislature, the U/CC must be in compliance with the Management Agreement by including:

- Timely monthly progress reports submitted to DMB-FA (including monthly project expenditure detail).
- Legal proof of ownership of the project site, free of title restrictions
 - Copy of the deed
 - No recorded liens (i.e.: tax, mortgage, or construction liens, etc.)
 - No easements or rights of way that may conflict with the project
 - No rights of reverter or re-entry
 - No other conflicting rights (i.e.: mineral exploration, imperium rights, etc.)
- Evidence of a contamination free site

- U/CC is within design and program scope of the project

Step 15: Approval of the State Administrative Board (SAB):

- Resolution of the State Administrative Board Approving Construction and Completion Assurance Agreements, Conveyances of Property and Leases for Certain Facilities
 - Establishes an annual rental range for the project.

Step 16: Approval of the SBA Board of Trustees:

- Resolution of the State Building Authority Approving Construction Agreements, Conveyances of Property, Leases and Easement Agreements, if necessary, for certain facilities
 - Establishes an annual rental range for the project.
- Approval of a supplemental resolution to the Trust Indenture of the Commercial Paper Program
 - Allows the project to be brought in under the original Trust Indenture and included in the Authority's short-term financing program.

Step 17: Approval of the U/CC Board of Trustees:

- Resolution of the Board of Trustees of the U/CC Approving a Construction and Completion Assurance Agreement, a Conveyance of Property, a Lease and an Easement Agreement, if necessary, for the U/CC Project
 - Approves an annual rental range for the project.
- Bill of Sale for the Facility

Step 18: SBA Commercial Paper Issuance: After all of the above steps have been completed and if the U/CC remains in compliance with the Management Agreement, SBA can issue commercial paper to fund the Authority's share of the project.

- The SBA will notify DMB Fiscal Management and Facilities Administration, Design and Construction Division that SBA financing is in place.
- After the U/CC has spent their share of the project and the SBA financing has occurred, the U/CC can request reimbursement for project expenditures. Reimbursement requests must be sent to the DMB-FA Project Manager (see Appendix 6).

Step 18-A: SBA Policy Related to Advancing Funds for State Agency Projects

- Once construction has commenced, the Agency, through the assigned Project Director, may request an advance of funds for upcoming expenditures.
- Advance of funds is made on a quarterly basis for the upcoming quarter.
- The total advance requested must be justified by a detailed list of projected expenditures.
- The Project Director must review and sign-off on the advance request and forward to the SBA for review.
- Expenditures in which the SBA does not consider "bondable" (see Appendix 6) will be communicated to the Project Director (who will in turn communicate to the Agency).
- Once both the Project Director and SBA approve the list of expenditures, SBA will request the transfer of funds to the Agency through Financial Services.
- Financial Services should be notified of the justification for any unspent funds in the following quarter.

Step 19: Long-term Financing of the Project: When the project is completed and the U/CC can take occupancy, the short-term notes that were used for financing the construction-in-progress are retired with long-term bonds.

- Certificate of Tenantability issued by the Architect – the text of a Certificate of Tenantability is attached as Appendix 9 and may not be modified.
- Lease is Executed
 - An independent appraiser determines the true annual rental for the project.
 - The SAB approves the “Resolution of the State Administrative Board Determining the Rental and Confirming Other Matters Regarding the Conveyances of Property and the Leases for Certain Facilities and Authorizing the Execution and Delivery of a Continuing Disclosure Agreement” which approves the conveyance of the Facility, the authorization of the lease between the State and the U/CC, and approves the annual true rental.
 - The Governor, Secretary of State, U/CC and the SBA sign the Lease.
- Warranty Deed is executed by the U/CC and conveys the property to the SBA.

PRESENTATION TO JOINT CAPITAL OUTLAY SUBCOMMITTEE

The University, Community College, or Agency may be called upon to present or discuss their project with the Joint Capital Outlay Subcommittee (JCOS), or the DMB may be called upon to discuss a project on their behalf. Additionally, the U/CC is encouraged to meet with JCOS members to answer questions or present information on their project. Presentation materials, if desired, shall be mounted on boards and shall include plans, elevations, and site development. The presentation should last no longer than 5-10 minutes. Be prepared to field questions from the JCOS members. Answers should be brief and to the point. The following is an outline of a suggested presentation format. Provide this single page outline to the DMB-FA Project Manager with each design submission, including Schematic Design.

- A. Representative of Agency/College/University:
 - 1. Introduction of presenters
 - 2. **Purpose of project. Emphasize how this project will benefit the State Agency or the University/College, or how it will impact the Mission Statement of the Agency.**
 - 3. Impact and effects the project will have on the surrounding community, economy, jobs, etc.
- B. Professional Architect/Engineer responsible for the project:
 - 1. Site Description
 - 2. Brief description of the facility, including all necessary components
 - 3. Materials and building systems proposed
 - 4. Total cost
 - 5. Schedule – drawings complete, construction start, construction complete, occupancy

***Items listed in bold indicate items of most importance**

INFORMATION FOR PLANNERS

BUILDING EFFICIENCY AND APPROPRIATE USE

It is expected that State Agency and U/CC capital outlay projects demonstrate space and cost-efficient design. Buildings must meet the efficiency ratios outlined in Appendix 7. Large circulation spaces may not be designated as usable areas by furnishing them as lounge, waiting, or study areas unless those areas are clearly required by the building program.

U/CC capital outlay projects are to serve an academic program, or other functions that provide in-direct support to the academic program. The program should not include recreation rooms, television lounges, billiard or gaming areas, or other spaces not integral to the academic program. Consult with the DMB-FA and/or the DMB Budget Office prior to including food service facilities, bookstores, child development centers, or other self-liquidating activities (for which a fee, tickets, or other revenue is collected) in the program.

GREEN BUILDINGS

Executive Directive 2005-4 requires that all State-supported Major Capital Outlay projects, whether for State Agencies, Universities, or Community Colleges, shall be designed and constructed in accordance with the LEED Green Building Rating System. Projects shall score a minimum of 26 points in the LEED Scorecard, for a minimum "LEED Certified" status. LEED Scorecards will be submitted with each phase review package. USGBC review and certification is optional. Information on the USGBC and the LEED Scorecard can be obtained from the United States Green Building Council at (202) 828-7422 or at www.usgbc.org

MICHSPEC™

The MICHSPEC™ is a model General Conditions for Construction Contracts required for State Agency major project construction contracts or U/CC contracts managed by DMB-FA. MICHSPEC™ is available from the DMB-FA on CD in either Word or WordPerfect formats. MICHSPEC™ may not be modified (except where allowed) or used elsewhere without copyright; it may only be used for projects managed by the DMB-FA. It is important when planning a project to consult the requirements of MICHSPEC™ in the earliest stages; this will allow the designer and user agency to maximize the effectiveness of the document. The DMB-FA can assist with MICHSPEC™.

CODE REVIEW AND BUILDING PERMITS

All State of Michigan projects performed with the DMB-FA require code review and building permits. Code review is required prior to bidding. Costs for Michigan Department of Labor and Economic Growth (DLEG) Bureau of Construction Codes and Fire Safety (BCCFS) review may be interagency billed.

U/CC: Universities may elect to have projects reviewed through their local municipalities or through the Bureau of Construction Codes and Fire Safety. Community Colleges generally come under the jurisdiction of their local municipality but that local municipality may choose not to perform the plan review. In that case, the Bureau of Construction Codes and Fire Safety will perform the plan review. The Michigan DLEG Office of Fire Safety is responsible for performing fire safety plan reviews and inspections for all new construction and remodeling of schools, colleges, and universities

State Agency: the DLEG Bureau of Construction Codes and Fire Safety must review State Agency projects.

CODES, REGULATIONS, LAWS:

All State Agency major and minor capital outlay projects must comply with the following codes, regulations, and laws. Certain projects may require additional review or approvals from other agencies or compliance with other regulations. It is the Professional's responsibility to determine which laws and regulations apply to a project.

University and College major capital outlay projects must comply with building codes as specified by each University or College.

Should a national and a state code contain conflicting items, the Professional shall use the more restrictive requirement.

State of Michigan projects on State-owned lands are not subject to local municipal, township, or county building permit or plan review. However, plans for projects may be shared with local officials on an informational basis only. An inspection conducted by a local inspector shall be of an advisory nature only.

DMB Facilities Administration Design and Construction Division
www.michigan.gov/dmb (follow link to "Facilities, Parking and Security")

(517) 373-6311

Bureau of Construction Codes, 2501 Woodlake Circle, Okemos, MI 48864
Mailing Address: PO Box 30254, Lansing, MI 48909
www.michigan.gov/cis (follow link to "Construction Codes and Fire Safety")

2003 Michigan Building Code
2003 Michigan Mechanical Code
2003 Michigan Plumbing Code

BOCA International
4051 W. Flossmoor Rd., Country Club Hills, IL 60478-5795

(708) 799-2300

Michigan Building, Mechanical and Plumbing Codes	(517) 241-9308
CIS BCCFS Plan Review	(517) 241-9328
Michigan Energy Code	(517) 241-9328
Michigan Barrier-Free Design Rules	(517) 241-9300
Michigan Office of Fire Safety 7150 Harris Drive, PO Box 30700, Lansing, MI 48909-8200	(517) 322-1123
Americans With Disabilities Act (Federal Register July 26, 1991) US Dept. of Justice Office on the ADA, Washington, DC 20530	(202) 514-0301
Sedimentation Control Act (Part 91 of 1994 PA 451) Michigan Department of Environmental Quality 350 Ottawa Avenue NW, Grand Rapids, MI 49503-2341 DMB-managed projects contact DMB-FA Sedimentation and Erosion Control Section (517) 241-2188	(616) 356-0276
Prevailing Wage Act: Contact your Project Manager or phone Bureau of Safety and Regulation, Wage & Hour Division 7150 Harris Drive, PO Box 30643, Lansing, MI 48909-8143 *Note: State Agency projects MUST go through their DMB-FA Project Manager; Colleges/Universities may contact Wage & Hour directly at above number	(517) 322-1830
Department of Community Health 320 South Walnut Street, Lansing, MI 48913	(517) 373-3740
Family Independence Agency 235 South Grand Avenue P.O. Box 30037 Lansing, MI 48909	(517) 373-2035

PROJECT SIGN

A project sign must be installed at the construction site for all projects over \$500,000.00. The sign shall conform to DMB-FA guidelines in Appendix 8. Advertisement and names of contractors or consultants are not allowed. Universities and Community Colleges shall provide a photograph of the erected sign in the first monthly report.

BUILDING REQUIREMENTS/DESIGN GUIDE/DOCUMENTS CHECKLIST

OUTLINE SPECIFICATIONS

A preamble to the outline specifications shall name the separate prime contracts being proposed and the scope of each or to describe any unusual construction techniques being proposed, as well as unusual conditions affecting the design or cost, e.g., restricted working conditions or limited access.

Use the divisions of the Construction Specifications Institute and within each division use the broad scope section titles and sequences as shown in the most recent edition. In Division 1 - General Requirements, include those Special Project Procedures and other items which are special or unique to the project. This shall be an outline specification only. Show various materials in their proper divisions and include a preliminary finish schedule in Division 9 - Finishes. Cover the mechanical and electrical divisions as thoroughly as the previous divisions.

DOCUMENTS CHECKLIST

Planning, bidding requirements, and contract documents are reviewed and approved by the DMB-FA at various stages or phases, only for: 1) general compliance with the approved program statement and its amendments; 2) with legislative, budgetary, and time limitations; 3) with required format and 4) with pertinent documents previously approved by the DMB-FA.

It is the responsibility of the Professional Services Contractor to check and correct the documents which he/she prepares, for errors and omissions; for engineering and technical performance; for coordination of the various systems; for conflicts or discrepancies in drawings and specifications and for compliance with applicable codes, regulations and standards.

For specifications, use the CSI division format and within each division use the broad scope section titles and sequences.

A checklist of frequently encountered problems has been compiled below by the DMB-FA. It is not comprehensive nor is its use to be limited to those items specifically enumerated. It is offered only as an aid to the professional services contractor in periodically checking his/her documents.

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS

The principle of competitive bidding must at all times be maintained. Do not use proprietary or trade names unless at least two are named and then only in the specifications. Do not use proprietary or trade names on the drawings. The phrase "or equal" shall be used or included by reference in the special conditions or instructions to bidders. An equal is permitted only upon the written approval of the professional service contractor, and then the construction contractor is responsible for all costs due to the acceptance or use of it. An equal product should be distinguished from a substitution. Universities or Colleges may use the following or similar paragraphs in the "Special Project Procedures" or "Instructions to the Bidders". State Agencies shall use the MICHSPEC[®]:

The use of an equal product, defined by describing a proprietary product or the use of two or more trade names, if not inserted, shall be implied. The specific product described or named shall be understood to establish the minimum requirements for fulfilling contract obligations in regard to quality, function, installation, material, manufacture, and standard of design. Equal products, other than those that are specifically described or named, will be permitted provided that written approval is obtained from the professional service contractor prior to placement of orders and further provided that the Contractor be totally responsible for all costs incurred by use of the equal product. No approvals concerning any part of the contract by either owner or professional service contractor shall be valid unless given in writing. The professional service contractor shall be the sole judge of an "equal" and no extras will be allowed due to the requesting contractor's assumption of equality of products.

The substitution of material or equipment different from that specified shall be considered only if a request for same, in writing, is received by the professional service contractor at least 14 days prior to the date for opening of bids. The request shall include complete data for evaluation of the proposed substitution, including estimated savings or additional costs resulting from its use. If the substitution is approved, an addendum will be issued to all recipients of bid documents.

Consider using a Partnering Charter pursuant to AGC Guidelines.

DIVISION 1 - GENERAL REQUIREMENTS

00850 Wage Determination Schedule. All State Agency, University, and Community College projects shall be bid using Prevailing Wages. Prevailing Wages shall be contained in the Bidding Documents.

01020 Allowances. No allowance shall be used without the express written authorization from the DMB-FA Project Manager.

- 01025 Measurement and Payment. Provide procedures and submittal requirements for schedule of values, application for payment, and unit prices. Do not use unit prices except with express written authorization from the DMB-FA Project Manager.
- 01030 Alternates/Alternatives. No alternatives or alternates are to be used except with express written authorization from the DMB-FA Project Manager. Alternates shall be deduct only.
- 01100 Special Project Procedures. Include special procedures at State units involving the Departments of Corrections, Community Health, and Human Services
- 01500 Temporary Facilities and Controls. Make certain that it is clear what is to be provided, by whom and who pays for it. Verify with State Agency and DMB-FA for availability.
- 01700 Contract Close Out. Make certain that it is clear when project is to be accepted by owner, when warranties are to begin, when owner's liability for operations, maintenance and insurance is to be assumed and what the Contractor's residual obligations are and for how long. Consider Builder's Risk Insurance and the establishment of Liquidated Damages.

DIVISION 2 - SITE WORK

- 02000 General. Obtain information for boundary and topographic surveys from the DMB-FA Project Manager, or U/CC. The bidding documents are to contain a sheet showing all existing conditions (same scale and orientation as site plan) with no other work shown on this sheet. Provide Project Sign (see Appendix 8) for all projects over \$500,000.00.
- 02010 Subsurface Investigation. Obtain soils information as part of the basic professional services. Involve the testing engineers in planning the boring locations and consult with them during the time borings are being done and during the design of footings or foundations. Provide the DMB-FA with three (3) copies of final report. Include locations of test holes and log of borings on plan of existing conditions.
- 02050 Demolition. Do not allow rubble backfill in basement areas. Clear basements, break up concrete floors and backfill with granular fill. Basement walls and broken up concrete basement floors may remain in place. Be certain that possible hazardous waste is properly handled per regulations of the Department of Environmental Quality.
- 02100 Site Preparation. Include protection for existing trees and shrubs which are to remain.
- 02200 Earthwork. Provide for controlled compaction of backfill that supports structures parking or walks. Ensure that brick-filled areas are protected from frost and water. If engineered fill is required, prevent settlement that may cause structural damage.
- 02270 Soil Erosion and Sedimentation Control: Comply with 1994 PA 451, Part 91 (Soil Erosion and Sedimentation Control). Ensure that best practices are followed and that the design of an SESC plan is submitted for review to the appropriate agency.
- 02500 Paving and Surfacing. Keep islands and small structures to a minimum in order to facilitate snow removal with power equipment. Provide for snow storage.
- 02700 Sewage and Drainage. Make certain that building ground floor is placed at an elevation that will permit positive surface drainage away from the structure and so that no possibility exists for storm water to enter doors or other large openings in case of catch basin or drain stoppage.
- 02900 Landscaping. Design landscape structures keeping in mind the likelihood of damage by powered snow removal equipment handled by inexperienced operators. Utilize tree and shrub stock native or adaptive to site. Avoid exotic species and monocultures.

DIVISION 3 - CONCRETE

- 03250 Concrete Accessories. In concrete swimming pools, provide special water stops at all construction or expansion joints. Do not rely on coatings.
- 03300 Cast-In-Place Concrete. Make provision for controlled expansion, contraction and differential movement or settlement. Do not use spread or wall footings without steel reinforcement.
- 03400 Precast Concrete. Anchorage details should be tested and proven prior to actual installation. Consider the appearance factor of this material as a finished surface after ten or more years of exposure. Consider accumulation of atmospheric soils and wash-off.

DIVISION 4 - MASONRY

- 04150 Masonry Accessories. Make provision for controlled expansion, contraction and differential movement or settlement.
- 04200 Unit Masonry. Anchorage details for precast units should be tested and proven prior to actual installation. Masonry back-up for masonry veneers is preferred. Provide for differential movement.
- 04400 Stone. Use exterior materials proven to be impervious to frost action.

DIVISION 5 - METALS

- 05000 General. Make provision for controlled expansion and contraction and provide for protection against corrosion due to electrolysis between dissimilar metals.
- 05100 Structural Metal Framing. Use of "Cor-ten" or similar steel is to be used with discretion, taking particular care to avoid inappropriate rust staining of adjacent materials.
- 05200 Metal Joists. Joists shall comply with the Steel Joists Institute Standard Specifications for open web steel joints.
- 05300 Metal Decking. Use sufficient depth and gauge to overcome excessive deflection causing roofing membrane rupture or delamination when foot traffic occurs.
- 05500 Metal Fabrications. Observe OSHA, ADA, and MBF requirements on railings and stair details.

DIVISION 6 - WOOD AND PLASTICS

- 06600 Plastic Fabrications. Vinyl handrail covers shrink or expand severely. Avoid these unless material is proven. Avoid exposure to sunlight at interior locations.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

- 07000 General. Provide for controlled expansion-contraction-differential movement or settlement. Observe criteria and standards of Michigan Energy Code.
- 07100 Waterproofing. Provide for protection against damage in backfill operations.
- 07200 Insulation. Make certain that sufficient insulation or vapor barriers are provided to prevent moisture condensation or that any insulation subject to moisture condensation is properly vented to allow dissipation of this moisture without damage to structure or content. Insulation shall comply with code compression standards.
- 07300 Shingles and Roofing Tiles. Provide adequate roof slope for conditions and materials to avoid back-up leakage due to ice and snow formations. Provide verification.

- 07400 Manufactured Roofing and Siding. Provide adequate roof slope for conditions and materials to avoid back-up leakage due to ice and snow formations. Provide standing seam roofing only.
- 07500 Membrane Roofing. Specify single ply elastomeric membrane, totally adhered or mechanically fastened with possible option of coal tar pitch and gravel, if design conditions are correct. Provide slope of at least 1/4" per foot to avoid ponding. Try to avoid high parapet walls and their attendant flashing problems. For built-up tar pitch roofs a twenty-year total system manufacturer's warranty shall be provided to cover roofing, insulation, flashing, connections, labor material, and installation. For single-ply membrane roofs a fifteen-year total system manufacturer's warranty shall be provided to cover roofing, insulation, flashing, connections, labor material, and installation; an additional five-year warranty on the membrane shall be provided. For **all** roofing systems a two-year warranty shall be provided by the general contractor that shall commence with the date of substantial completion of the total project.
- 07600 Flashing and Sheet Metal. Provide for controlled expansion and contraction. Check overhang or eave details for potential problems of icing and roof water back-up. Check for downspout or conductor icing. Detail flashing to allow removal and reinstallation for reroofing.
- 07800 Skylights. Skylights are not allowed because of the perennial leakage problems. Consider monitors for daylighting.
- 07900 Joint Sealers. Do not rely on sealants as primary water stop.

DIVISION 8 - DOORS AND WINDOWS

- 08000 General. Provide construction, glazing, and weatherstripping for maximum energy conservation consistent with budget. In mental or penal structures use special security screws only in areas accessible to patients or inmates.
- 08100 Metal Doors and Frames. Provide for rust or corrosion protection, and for proper back-up plates for secure hardware attachment and anchorage.
- 8200 Wood and Plastic Doors. Avoid for exterior use except under special conditions.
- 08360 Provide overhead doors with safety switches with electric eyes, not seal switches (which freeze).
- 08500 Metal Windows. Consider problems of through conduction, condensation runoff, and attendant damage. Provide proper flashing and blocking.
- 08700 Hardware. Include special agency requirements for the Departments of Community Health and Corrections.
- 08800 Glazing. Observe Consumer and Industry Service Office of Fire Marshal rules on glass. Be certain of proper degree of security and safety in mental or correctional structures. Consider provision for interior reglazing in multistory structures. Provide for controlled expansion/contraction/ differential movement, especially to prevent cracking of multipane glazing.

DIVISION 9 - FINISHES

- 09200 Lath and Plaster. Make provision for controlled expansion and contraction, especially for exterior work. Use galvanized lath and solid zinc edge, corner or other termination pieces for exterior or interior high humidity areas.
- 09250 Gypsum Board. Avoid for exterior use even if protected against weather. Do not use in locations exposed to aggressive behavior. Provide proper accessories for closure and trim.

- 09300 Tile. For exterior use, specify certified frost proof vitreous tile.
- 09400 Terrazzo. Avoid use for exterior and do not use on ramp or sloped floors because of slipping danger.
- 09500 Acoustical Treatment. Consider appropriations in reference to fragility, damage by occupants, cleanable and sanitation factors.
- 09550 Wood Flooring. Provide controlled expansion and contraction and consider likelihood of exposure to high humidity or water.
- 09650 Resilient Flooring. Avoid in wet areas.
- 09680 Carpet. Avoid use in areas occupied by or accessible to incontinent persons because of cleaning and sanitation problems. Make certain of limitations regarding fire and smoke.

DIVISION 10 - SPECIALTIES

- 10150 Compartments and Cubicles. Comply with barrier-free codes. (Michigan Barrier-Free -- CABO/ANSI 117.1 – 1992, and ADA requirements)
- 10200 Louvers and Vents. Provide for drifting or blowing snow problems.
- 10270 Access Flooring. Avoid where subjected to heavy wheeled loads.
- 10400 Identifying Devices. Include in contract, uniform and consistent typography and colors throughout the structure, campus or institution. Comply with barrier-free codes. Coordinate design of interior and exterior signage.
- 10530 Protective Covers. Make certain that canopies are protected against vehicle or truck damage.
- 10670 Storage Shelving. State agency and professional service contractor shall determine usage prior to bidding, not after construction is in place.
- 10750 Telephone Specialties. Make provision during planning. After construction, phone company will most likely provide an eyesore with exposed conduit, etc. Consider data specialties.
- 10800 Toilet and Bath Accessories. Check details carefully with user or manager of maintenance staff for compatibility with stock paper, soap, etc. Provide substantial backing for adequate anchorage.

DIVISION 11 - EQUIPMENT

- 11000 General. Where applicable consult with and obtain required approvals from Department of Community Health, Office of Fire Safety, or other cognizant agencies. Include any required fire extinguishers in building contract.
- 11020 Security and Vault Equipment. Make certain that enclosing wall, floor and ceiling construction is at least equal to vault door.
- 11160 Loading Dock Equipment. Do not use depressed loading docks which rely on drainage by means of a sump or grate. These plug and freeze. Provide adequate roof clearance for semitrailers.

DIVISION 12 - FURNISHINGS

- 12500 Window Treatment. Include shades, blinds, drapes or other similar devices, complete with operating hardware and installation, usually as separate bids and contracts.
- 12600 Furniture and Accessories. Not normally included in building contract except by written authorization.
- 12700 Multiple Seating. Fixed seating shall be included in construction contract.
- 12800 Interior Plants and Planters. Not normally included in building contract except by written authorization.

DIVISION 13 - SPECIAL CONSTRUCTION

- 13020 Integrated Assemblies. Make certain that trade jurisdiction problems are accounted for.
- 13150 Aquatic Facilities. Consult with and obtain written approval of Department of Community Health for both construction and operation.

DIVISION 14 - CONVEYING SYSTEMS

- 14200 Elevators. Begin with a description of the elevator, giving area, weight of lift, speed, number of stops, approximate distance of travel, class (freight, passenger, both) type of operation. Follow with a detailed method of operation. On contracts for repairs, specify testing and include a clause requiring the Contractor to inspect the equipment carefully, assume all responsibility for damage due to his/her testing, and to deliver the repaired machine in a first class operable condition. Consider height of freight elevator cab to facilitate furniture delivery.

DIVISION 15 - MECHANICAL

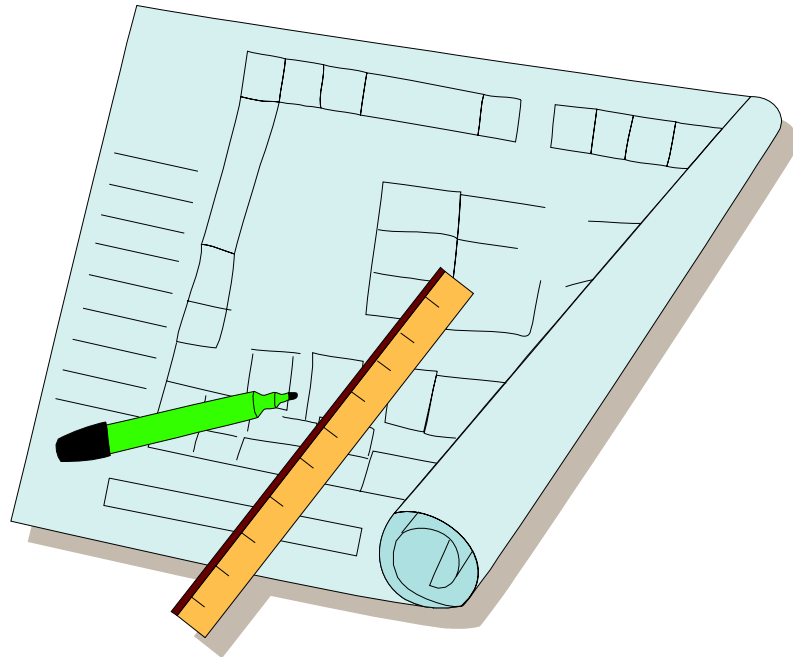
- 15000 General. Insist on adequate physical space for the placement, operation, maintenance, removal and repair of all mechanical equipment, piping, and ducts. Observe criteria and standards of Michigan Energy Code and its superseding revisions. Coordinate design work with architectural designer to avoid unsightly exposures of cooling towers, meters, stacks, vents, piping, conduit, etc. In mental and penal buildings use special security screws in areas accessible to patients or inmates. Consider humidity control and proper ventilation to avoid and prevent mold and fungal growth in buildings.
- 15300 Fire Protection. Consult with and obtain written approval of the Office of Fire Safety.
- 15400 Plumbing. Provide floor drains in all toilets and all other spaces housing water using devices, e.g., drinking fountains, water heaters, etc.
- 15550 Heat Generation. Provide for adequate combustion air supply. Consider energy recovery devices.
- 15750 Heat Transfer. Consult with DMB-FA.
- 15880 Air Distribution. Check for possible cross-contamination on supply and exhaust ports.
- 15950 Controls. Consider sophistication of systems in relation to probable operating and maintenance staff capabilities.

DIVISION 16 - ELECTRICAL

- 16000 General. Be certain that adequate space and clearance is provided for safe and proper operation, maintenance and removal of all electrical equipment. In psychiatric hospitals, juvenile detention centers, and penal facilities, use security equipment and fasteners only in areas designated by the state agency. Practice energy conserving designs, e.g., high efficiency motors and light sources, realistic sizing of transformers and conductors. Prime factors for consideration in selecting equipment shall be cost effectiveness, energy efficiency, durability, ease of maintenance, compatibility with existing equipment and systems, simplicity of operation and availability of parts and service. Provide a comprehensive, concise description of the work to be performed in this division. Follow "Green Lights" electrical program.
- 16000 General. For State-owned and managed buildings, follow the "State of Michigan Department of Management and Budget Electrical Installation Standards", most recent revision for wire identification standards, power source labeling requirements, modular furniture and floor raceway wiring requirements, grounded conductors or neutrals, lighting fixtures, terminations and junction boxes, as-built drawings and prints, abandoned and replaced equipment, and service equipment and feeders. Obtain a copy of this standard from the DMB-FA Project Manager.
- 16050 Basic Electrical Materials and Methods. Use performance specifications as much as possible and generic rather than trade or brand names. Ensure wiring is proper type and color throughout project.
- 16200 Power Generation - Built-Up Systems. Consult with the DMB-FA of the Facilities Administration, Design and Construction Division before discussion with state agency personnel. Ascertain whether on-site auxiliary plant is required.
- 16300 Medium Voltage Distribution. Outdoor transmission is preferred to be in underground duct or in tunnels.
- 16400 Service and Distribution. Consider the effect of alteration or addition to the distribution system on the State unit's existing concept and/or long-term planning.
- 16450 Grounding. Ensure grounding path has sufficiently low impedance to provide safe ground. Use footing-type grounding electrode for steel framed buildings.
- 16500 Lighting. Illumination levels shall be based on the recommendation of I.E.S. 5th Edition. Specific task areas shall be illuminated to higher levels than the general area lighting. Selective switching should be considered in multi-use areas.
- 16600 Special Systems. Relative costs, reliability and usage shall be considered in selection of emergency light and power systems and equipment. The building construction shall be evaluated for lightning protection and cathodic protection of utility system components.
- 16700 Communications. Important considerations in design of systems and selection of equipment are compatibility with existing state agency equipment and capability of staff to maintain it.
- 16900 Controls and Instrumentation. Considerations of system selection shall include its compatibility with existing systems necessary with which to interface, sophistication of the system relative to the capabilities of the maintenance and operating staff and availability of parts and service.

**STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
FACILITIES ADMINISTRATION,
DESIGN AND CONSTRUCTION DIVISION**

**DESIGN MANUAL APPENDIX ONE
GENERAL REQUIREMENTS FOR DESIGN SUBMITTALS**



Revised JULY 2006

APPENDIX ONE – GENERAL REQUIREMENTS FOR DESIGN SUBMITTALS

- Number and timing of reviews: Formal reviews may be necessary at the 50% and 95% stage of each design phase (Programming, Schematic Design, Design Development, Construction Documents), depending on project size, complexity, funding, etc. The requirement for review is subject to the discretion of the DMB-FA. Informal reviews are valuable and can be arranged with the DMB-FA Project Manager.
- Each formal review shall include a written approval from either the State Agency or the U/CC. State Agencies shall note the importance of its timely, careful, and thorough review of the planning documents at each phase for program and operational compliance. This will help avoid delays, additional design and planning fees, and additional construction costs caused by changes to previously approved design documents.
- Each design submittal shall contain the following information:
 - Phase (Programming, Schematic Design, Design Development)
 - Facilities Administration Design and Construction Division (State) File Number -- obtain from Project Manager and use on **all** correspondence and **all** submittals.
 - State Index Number(s) -- obtain from Project Manager and use on all correspondence
 - State Department and/or Agency, U/CC Title
 - Location
 - Project Title (remain consistent throughout project)
 - Date (or current revision date) common to all materials, drawings, etc.
 - Table of Contents with submittals in order listed in phases, tab text for easy reference
 - Name and Address of Professional Service Contractor(s), total project team; include Michigan Registration seal and signature of a principal of the Professional Service Contractor pursuant to Public Act 299 of 1980.
- All correspondence, including transmittals, shall reference the File Number and Index Number, Project Title, Location, and Agency.
- All pages shall be numbered.
- Original drawings may be 24" x 36", 30" x 42", or smaller, but for design (schematic and preliminary/design development) submittals, the presentation format shall be 8-1/2" x 11" (foldouts acceptable), bound and tabbed for easy reference. If using foldouts, please ensure that they are folded to fit 8 1/2" x 11" format.
- Graphic Scale required
- Lettering shall be legible when reduced
- North arrows shall point up or to the left
- State of Michigan block within title block (contact Project Manager for an AutoCad block file)
- Construction Specifications Institute format (16 division) required for Specifications, including broad scope section titles and sequences within each division.
- Avoid slang, trade, and regional terms.
- Room names and numbers shall appear directly within their respective room, not on a key located elsewhere on the drawing. This is critical for speedy review of drawings.
- Calculate building areas and volumes according to the requirements of Appendix Five. Do not use BOMA or any other standard for building area and volume calculation.

- Notes preferably appear on their respective plans, sections, elevations, and details. If necessary, notes may appear on a keynote list located elsewhere on the drawing sheet to which they refer. A separate notes sheet or notes located in the Specifications is not acceptable.
- Equipment, finish, door and window schedules shall be on the drawings.
- Lengthy notes shall be placed in the Specifications.
- Use highlighted key plans if the plan size exceeds the capacity of a single sheet. Orient same as plans.
- Use lighter line weight for mechanical and electrical backgrounds. Line diagrams for power distribution, power alarms, communication, and monitor shall be provided at 50% and 95% review stages.
- Provide symbol legends at the right edge of each respective classification (architectural, mechanical, structural, etc.)
- Include a LEED checklist showing expected LEED points.

Bind all manuals and shop drawings into a usable package for the state agency and DMB-FA. Provide mylar or CAD files of "As-Built" drawings of all contract drawings, including those prepared by a subcontractor such as: conduit, communication, and fire protection drawings.

An Operational and Maintenance Manual shall be provided upon substantial completion of construction generally covering:

- a. Design concepts of the various building systems based on final construction and physical installation including criteria from which the concepts were derived, codes used, parameters of design, and performance limitations for effective operation when applicable, preventive maintenance instructions, and spare parts list;
- b. Operational description of the integrated and composite systems including any limiting parameters and sequences as related to individually installed components;
- c. List of installed components, manufacturers and operational instructions capable of meeting the performance required by the contract documents;
- d. List of shop drawings for system components showing model numbers, material, etc., The following systems may be applicable:

Structural	Sprinklers	Electric lighting
Fenestration	Water supply	Dust collecting
Roofing	Storm sewers	Central monitoring
Vacuum	Steam supply	Elevator or vertical lift
Humidification	Sanitary sewers	Electrical interlocks
Air conditioning	Air piping	Chemical waste
Heating	Gas piping	Refrigeration systems
Communication	Electric power	Temperature controls
Alarm	Special	

The professional service contractor shall take minutes of all meetings with the DMB-FA and/or the state agency and/or department. Copies of the minutes of each meeting shall be sent promptly to attendees and to the following if not in attendance:

- One copy to DMB-FA Project Manager
- One copy to DMB-FA Owner's Field Representative (Inspector)
- One copy to the state agency's administration or project representative
- One copy to the state agency's department director

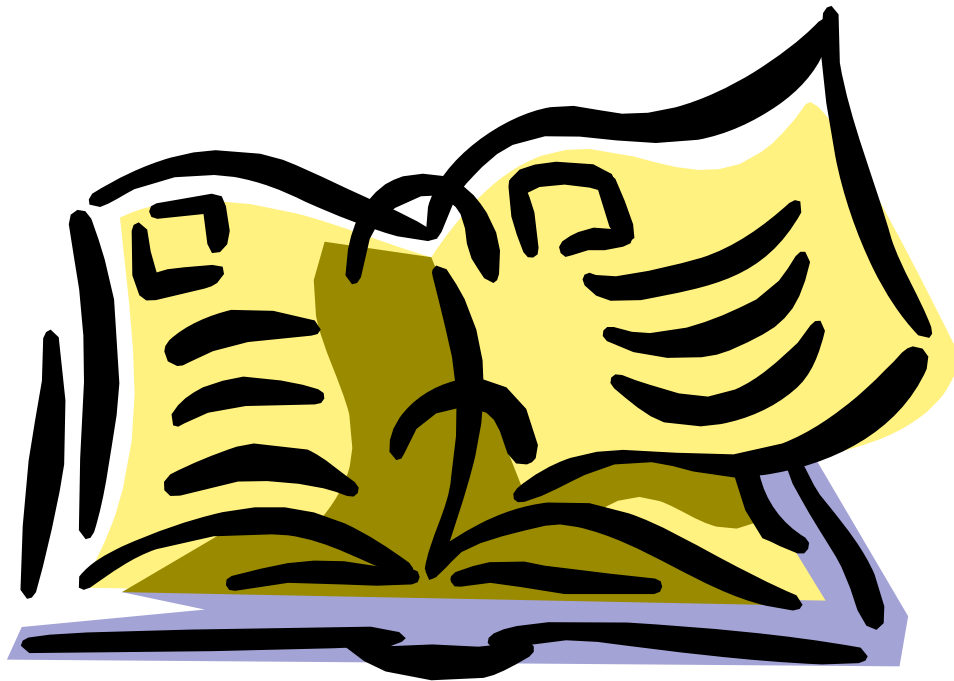
All basic planning and review meetings for State or DMB-FA managed projects will be scheduled and held at the DMB-FA, unless mutually agreed to otherwise. The professional service contractor and the state agency may meet at more frequent intervals for purposes of attending to the details of program interpretation and planning; however, the DMB-FA shall be kept informed of such meetings by the timely distribution of minutes by the professional service contractor. The professional service contractor is cautioned not to follow instructions by state agency concerning program changes, which affect schedule, project cost, or professional service fee structure, without prior DMB-FA notification and approval.

Planning documents are to be forwarded by the professional service contractor to DMB-FA three weeks before any expected meeting. Consult the DMB-FA for number of copies required.

**STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
FACILITIES ADMINISTRATION,
DESIGN AND CONSTRUCTION DIVISION**

DESIGN MANUAL APPENDIX TWO

**PROGRAM STATEMENT AND SCHEMATIC DESIGN
SUBMISSION REQUIREMENTS**



Revised JULY 2006

APPENDIX TWO – PROGRAM STATEMENT AND SCHEMATIC DESIGN SUBMISSION

Phase 200/300 - Program Statement and Schematic Design Submission

Notify the DMB Budget Office when planning to submit a Program Statement/Schematic Design Submission. Submit three (3) draft copies of the Program Statement/Schematic Design Submission to the DMB Budget Office. If the project is found acceptable, submit eight (8) copies of the Program Statement/Schematic Design Submission to the DMB-FA for approval in accordance with the Capital Outlay Manual and the Major Project Design Manual. Include twelve (12) copies of an Executive Summary as part of the submission. Allow a minimum of three weeks for review and approval.

- A. Title: “Program Statement for the (name of building) at (name of institution, agency, and location). Authorized by P. A. XXX of 20XX (Insert appropriation act number and year). Approved by: (name and title of agency, University, or Community College head) on (date of approval).”
- B. Introduction: Discuss the instructional goals (for U/CC projects) or operational goals (for State Agency projects) of the project. Include a short justification for the project. Describe the proposed project, summarizing the result of the program analysis and schematic design. Describe planned phases or project components. Describe the competitive selection process for the PSC and/or the Construction Manager.
- C. Approval Letters: Program statement, program amendments and applicable approval letters from University, State Agency, DMB-FA, DMB Budget Office.
- D. Building Program Areas: Compile or tabulate the building program, listing all spaces organized by department or classification. Describe the extent and proposed use of spaces which will be vacated upon occupancy of the proposed facility or if demolition is necessary. List the capacity of the building by rooms in terms of students, beds, patients, inmates, staff, work stations, books, etc.
- E. Space Classification: Provide a summary tabulation organizing the building spaces into categories of uses. Building space is classified into two major classifications: 1) agency space – necessary for the working requirements of the building occupants, and 2) building space – necessary to make the building technically function.
- F. Net and Gross Areas: Establish net to gross efficiency ratios for building type. In no case may the net to gross ratio be less than 55% percent -- see “Net to Gross Ratio Guidelines.”
- G. Furnishings and Equipment List: Organized by department or to correspond to program organization. Provide as developed by the State Agency, University, or College. The purpose of the furnishings and equipment list is to provide the furnishings and equipment required to make the facility complete and ready for use. This budget item is not to be used as a device to upgrade or replace the existing equipment inventory. The list should be accompanied by a narrative attachment to indicate the extent that existing equipment will be used in the facility. The list should indicate the percentage of the total the new equipment represents of the anticipated total project cost. The list should have columns indicating the quantity, description, estimated unit cost, and total estimated cost of the furnishings and equipment. Group like categories of similar equipment items within an overall heading description of the whole group of equipment. It is not intended to be an individual list of each item of equipment at the program and schematic level.
- H. Site and Exterior Space Relationships: Site analysis and studies defining site relationships to existing and future structures, utilities, environmental factors, traffic patterns, public transportation, open space, related features, and any anticipated special utilities or operational issues.
- I. Building Space Diagram: Flow, bubble, or matrix diagrams, sketches or other information showing net square footage components to scale in their approximate relationships and adjacencies.
- J. Building and Construction Systems: Describe the structural, mechanical, and electrical systems. Describe the basic utilities, including their availability, capacity, and environmental impact. Include

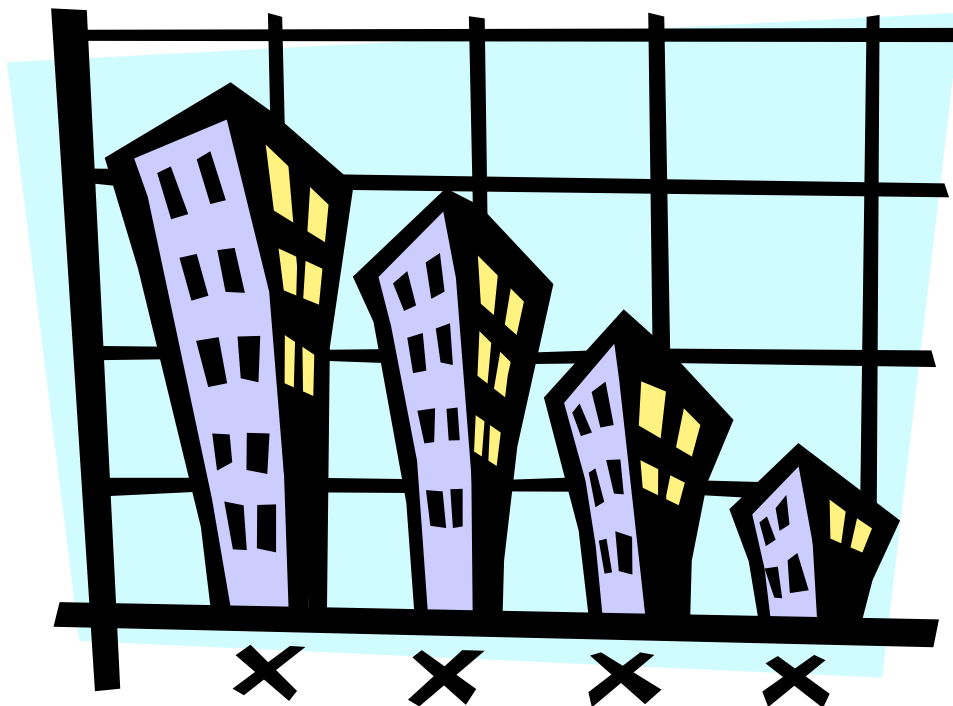
a LEED checklist outlining the energy efficiency and sustainable design aspects of the proposed project.

- K. Project/Program Cost: Provide cost estimate with total project cost as well as for individual portions of project, if the project will be completed in separate phases. Use Project Data Sheets for format.
- L. Design and Construction Schedule: By month and year, indicating schedule of proposed submittals, bidding, award, and construction. Discuss project delivery methods (phased construction, multiple bid packages, construction management, etc.) and if possible, show projected bidding schedule.
- M. Annual Operating Budget: Show projected costs of utilities, insurances, janitorial/maintenance services, window washing, security, etc.
- N. Drawings:
 - a. Location Map
 - b. Legal description where applicable
 - c. Existing Conditions Site Plan showing only (except delineate in proposed structure) existing physical features including topography and all overhead and underground utilities (same scale and orientation as following Site Plan)
 - d. Site Plan showing roadways, walkways, soil boring data, preliminary landscape layout and other significant features
 - e. Floor plans at appropriate scales, including room names and square feet in each room
 - f. Elevations in block or mass form
 - g. LEED checklist.
- O. Executive Summaries: In addition, provide 12 sets of executive summaries, unbound but stapled. These summaries are provided for the members of the JCOS and should provide a concise and understandable synopsis of the project. The summary shall include the following items:
 - a. Discussion of instructional goals (for U/CC projects) or operational goals (for State Agency projects) of the project. Include a brief justification of the project.
 - b. Brief project description, summarizing the result of the program analysis and schematic design and including description of proposed construction.
 - c. Describe planned phases or project components.
 - d. Net and Gross Areas.
 - e. Project Data Sheets.
 - f. Design and Construction Schedule.
 - g. Annual Operating Budget.

**STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
FACILITIES ADMINISTRATION,
DESIGN AND CONSTRUCTION DIVISION**

DESIGN MANUAL APPENDIX THREE

SPACE UTILIZATION GUIDELINES



Revised JULY 2006

APPENDIX THREE -- SPACE UTILIZATION GUIDELINES

State Office Guidelines: The standards for state offices with conventional structural partitions are based on an average of approximately 140 square feet per full-time equivalent employee; however, open office space planning methods using systems furniture use a lower average of approximately 100-120 square feet per full-time equivalent employee. This figure is becoming the accepted norm for planning purposes. However, state agencies are encouraged to consider flexible and innovative space arrangements to minimize space usage. Consider sharing conference rooms, teaming spaces, reduction in duplication of spaces. If a specific business or functional need requires variation from these guidelines, discuss the need with the DMB-FA Project Manager.

CATEGORY	AREA RANGE WITH RECOMMENDED SQUARE FEET (NET USABLE)
<u>Full-Height Offices</u>	
Department Director	300-400 SF, not including conference area, [400 SF recommended]
Chief Deputy Director (19 & above)	250-320 SF [250 SF recommended]
Deputy Director, Assistant Director, Bureau Director (18 & above)	150-225 SF [225 SF recommended]
Division Heads or Chiefs, Agency Director (17 & above)	150-200 SF [180 SF recommended]
Special Designation (should have a specific justification for floor-to-ceiling construction)	80-175 SF [150 SF recommended]
<u>Open-Plan Offices</u>	
Assistant Division Director or Chief, Managers (13 & above)	100-145 SF [120 SF recommended]
Supervisors	80-145 SF [80 SF recommended]
Professionals, Technicians	80-120 SF (varies with need for files and equipment. To be defined within departmental standards)
Part-Time, Students, Interns, Field Staff	36-100 SF [36-48 SF recommended]
Workload Support Spaces (areas for special purposes such as reception, circulation, central files, storage, mail, etc.)	15% of office spaces

FINISH SCHEDULE – State of Michigan Offices

ROOM TYPE	WALL FINISH	FLOOR FINISH	AMENITIES	LIGHTING - CONTROLS
Department Director	Vinyl Wall Covering (VWC)	Carpet upgrade	Cable TV connection, private conference room, private toilet room, closet, thermostat	Accent lighting, standard lighting, occupant sensor, dimmers
Deputy Director	Accent, Paint	Upgrade or standard carpet with accent border	Semi-private conference room, thermostat	Standard lighting, occupant sensor
Office for 17+ level	Paint	Standard carpet	None	Standard lighting, occupant sensor
General Office	Paint	Standard carpet	None	Standard lighting, central controls
Large Conference Room	VWC, chair rail, white board, clock	Standard carpet with accent, boarder	Cable TV connection, phone & power under table, network connection, cabinet with sink, projection platform at ceiling	Standard lighting, accent lighting, dimmer controls
Small Conference Room	VWC, chair rail, white board, clock	Standard carpet with accent, boarder	Phone, power, network connections	Standard lighting, accent lighting, dimmer controls
Private Conference Room	VWC, chair rail, white board, clock	Match adjoining office	Phone, power, network connections	Standard lighting, accent lighting, dimmer controls
Break Rooms	Paint	Vinyl	Base & pantry cabinet with sink, space for microwave and refrigerator, power for microwave and refrigerator	Standard lighting, central controls

UNIVERSITY AND COLLEGE SPACE STANDARDS: Various higher education facilities planning guides exist and may provide guidance for standards of space allocation. The following tables of space utilization standards are provided as a guide.

CLASSROOMS: Assignable square feet (ASF) per station.

- For classrooms averaging 20 stations: approximately 21 ASF per station
- For classrooms averaging 30 stations: approximately 17 ASF per station
- For classrooms averaging 40 stations: approximately 15 ASF per station
- For classrooms averaging 80 stations: approximately 12 ASF per station
- For classrooms averaging 120 stations: approximately 11 ASF per station.

CLASS LABORATORIES: Assignable square feet (ASF) per station, including the floor area of related service rooms (workload support space).

<u>Academic Programs</u>	<u>Lower Division</u>	<u>Upper Division and Graduate</u>
Agriculture and Natural Resources	60-70	60-70
Engineering	50-90	75-125
Architecture, Environmental Design Biological Sciences, Fine and Applied Arts, Home Economics, Physical Sciences Psychology, "Lab" Social Sciences (typically Archaeology, Criminology, Anthropology)	55-65	85-95
Communications	35-45	55-65
Education (excluding Physical Education)	30-50	30-50
Area Studies, Business and Management, Computer and Information Sciences, Foreign Languages, Letters, Library Science, Mathematics, Military Science, Public Affairs And Services, "Non-Lab" Social Sciences (typically History, Economics, Sociology, International Relations, Demography, Urban Studies, Ethnic Studies)	25-35	25-35

<u>Technical/Vocational</u>	<u>Assignable Square Feet per station</u>
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Business and Commerce	25-35
Printing, Photography, Graphic Arts	55-65
Hotel and Restaurant Management	55-65
Transportation and Public Utilities	125-175
Computer Technologies	50-80
Health Services & Paramedical (Except Physical Therapy)	40-60
Physical Therapy	90-110
Mechanical & Engineering Technologies (except Graphics and Drafting)	120-160
Graphics and Drafting	55-65
Natural Science Technologies	40-60
Public Service-Related Technologies	

Interdisciplinary	Combine the factors of the various academic programs from which the interdisciplinary courses are combined.
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Research and Graduate Training Facilities: Includes service (workload support) space.

<u>Academic Program</u>	<u>Assignable Square Feet per Faculty Member Engaged in Research</u>
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Agriculture and Natural Resources, Engineering, Biological Sciences, Physical Sciences	900-1,300
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Architectural Design, Fine & Applied
Arts, Home Economics, Psychology,
Communications 600-900

Education, Area Studies, Business and
Management, Computer and Information
Science, Foreign Languages, Letters,
Library Science, Mathematics, Public
Affairs and Science, Law, Theology 150-200

OFFICE AND CONFERENCE FACILITIES:

Organizational Unit	Type Of Institution	Assignable Square Feet per FTE Staff Requiring Space*
Academic Units (see note below)	University	140/170 ASF/FTE Staff
	4-year	125-150 ASF/FTE Staff
	2-year	110-130 ASF/FTE Staff
Non-Academic Units	All Institutions	140-170 ASF/FTE Staff

- These values include allowances for office, office service, conference room, and conference room service types of facilities.

Note: This system does not provide differential values of the criterion for different groups of employees. However, suggested differential values for academic offices are as follows:

- Single faculty member or equivalent: 110 +/- 10 net square feet
- Double faculty member or equivalent: 165 +/- 15 net square feet
- Department chairpersons or equivalent: 165 +/- 15 net square feet
- Deans or equivalent: 200 +/- 20 net square feet

Although faculty and professional staff usually are given larger offices and generate the requirements for conference room space, the other groups of employees create the demand for most office service facilities. The overall factors thus tend to even out.

Study Facilities, Libraries:

Stack Space: If "volume" is arbitrarily defined as a bound volume, the single value of 0.10 ASF per volume is appropriate. The calculation of volume equivalents is so complex as to be inappropriate as a required step in a generalized planning system. Therefore, it is suggested that a planning criterion of 0.10 ASF per bound volume be used with the recognition that use of this factor carries with it an implied assumption concerning the mix of library resources.

Study (Seating) Spaces: A value of 25-35 ASF per station for library study is appropriate for most institutions. However, a higher value for library study space may be required in those instances where private study cubicles are provided for faculty and/or graduate students. The number of stations to be provided is determined on the basis of a policy decision which should be explicit in the program. The requirements for a law library, for instance, may be such that a station for each student may be required.

Library Service Processing Space: This space (recommended at 5% of the sum of stack and study areas) should include only such areas as card catalogs or catalog stations, circulation desks, or other direct processing space. Library office space requirements should be calculated in accordance with space requirements for similar office spaces in other organizational units.

If library office space is not calculated separately, then the sum of the office and other library processing areas will range from 20% (for large libraries) to 25% (for smaller libraries) of the total amount of space in the study and stack categories.

Special, General, and Support Uses: Space requirements for such spaces will be individually assessed.

- Special Use: armories, athletic, physical education, audio/visual, clinic (non-medical), demonstration and field-service facilities.
- General Use: assembly, exhibition, food, student health, lounge, merchandising, and recreation facilities.
- Support: Central food store, central laundry facilities, data processing and computer, shop, storage, and vehicle storage.

**STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
FACILITIES ADMINISTRATION,
DESIGN AND CONSTRUCTION DIVISION**

DESIGN MANUAL APPENDIX FOUR

**SAMPLE MANAGEMENT AGREEMENT,
MONTHLY REPORT FORMAT, BUDGET SHEET,
PROOF OF OWNERSHIP, MATCHING FUNDS AND
MONTHLY EXPENDITURE REPORTING FORMAT**



Revised JULY 2006

APPENDIX FOUR – SAMPLE MANAGEMENT AGREEMENT,
MONTHLY REPORT FORMAT AND BUDGET SHEET

Note: Final text of a Project Management Agreement for a particular project may vary from this sample.

**CAPITAL OUTLAY
PROJECT MANAGEMENT AGREEMENT**

This Project Management Agreement ("the Agreement") is made between the State of Michigan Department of Management and Budget ("the DMB") and _____ University ("the Project Agent") for _____ ("the Project") and is effective as of the date of the final signature to the Agreement.

WHEREAS, the Project Agent intends to expend the total authorized costs for the construction of the Project, appropriated pursuant to 200__ PA ____;

WHEREAS, the State of Michigan (the "State"), agrees to provide the Project Agent with the State share of funding for the Project authorized and appropriated pursuant to 200__PA____, and subject to the terms and conditions of the Agreement;

WHEREAS, sections 237, 237a, 242, 244, 246, and 248 of 1984 PA 431 ("the Management and Budget Act") establish conditions for the expenditure of capital outlay project appropriations; and

WHEREAS, the DMB and the Project Agent desire to establish the terms and conditions set forth in the Agreement.

NOW, THEREFORE, in consideration of the mutual rights and obligations set forth in the Agreement, the DMB and the Project Agent agree as follows:

Section I. Definitions

As used in the Agreement:

- A. "DMB-FS" means DMB Financial Services, Fiscal Management Division.
- B. "DMB-FA" means DMB Facilities Administration, Design and Construction Division.
- C. "JCOS" means the Joint Capital Outlay Subcommittee of the Appropriations Committees of the Michigan Legislature.
- D. "Project" means a capital improvement project as defined in a program statement and schematic design approved by the DMB.
- E. "SBA" means the State Building Authority.

Section II. Total Authorized Cost

- A. The Project will be constructed within the total authorized cost of \$_____.00 (SBA share \$_____.00; General Fund/General Purpose share \$_____.00; University share \$_____.00), appropriated pursuant to 20__PA____.
- B. The Project Agent shall provide funding from University sources for any costs exceeding the total authorized cost of the Project, subject to authorization by the Michigan Legislature in a budget act or in a concurrent resolution.
- C. The Project Agent shall certify by letter to the DMB-FA that the University share of the total authorized cost established for the Project pursuant to 20__PA____ is available prior to the start of construction of the Project. The Project Agent shall use Attachment A in providing such certification.

- D. The Project Agent shall receive approval from the DMB-FA to use in-kind materials, equipment, or other items as part of the University share of the total authorized cost established for the Project pursuant to 20__PA__ prior to submitting the certification under Section II. (C). The value of in-kind materials, equipment, or other items authorized shall be determined at the time of approval.
- E. The Project Agent shall document and receive prior approval from the DMB-FA to use any expenditures, other than planning costs, incurred prior to enactment of 20__PA__ as part of the University share of the total authorized cost established for the Project pursuant to 20__PA__ prior to submitting the certification under Section II. (C).
- F. The Project Agent shall not use expenditures incurred for Phase I and Phase II environmental surveys nor costs of site environmental cleanup as part of the University share of the total authorized cost established for the Project pursuant to 20__PA__.
- G. The DMB-FA shall not authorize expenditures for changes that are inconsistent with the intent of the approved program statement as part of the University share, the SBA share, or the GF/GP share of the total authorized cost established for the Project pursuant to 20__PA__.
- H. The total authorized cost of the Project shall include DMB-FA fees pursuant to Section III. E.
- I. The DMB-FS shall release, upon approval by DMB-FA, the SBA share and the GF/GP share of the total authorized cost established for the Project pursuant to 20__PA__ subject to the following conditions:
 - 1. The Project Agent has documented to the DMB-FA that the University share of the total authorized cost of the Project established pursuant to 20__PA__ has been entirely expended.
 - 2. All requirements established by the SBA for the Project established pursuant to 20__PA__ have been completed, submitted and approved by the SBA. Specific SBA requirements take precedence over the Agreement and any other agreement and contract associated with the Project.
 - 3. All requirements established by the Agreement for the Project established pursuant to 20__PA__ have been completed, submitted and approved by the SBA.
- J. The DMB-FS shall reduce the SBA share, the University share, and the GF/GP share (only if GF/GP share is greater than \$200.00) of the total authorized cost in the same proportion if expenditures for the Project are less than the total authorized cost established pursuant to 20__PA__.

Section III. Project Expenditures

- A. The Project Agent shall issue payments for allowable costs of the Project as defined in the Major Project Design Manual (most recent edition), prepared by the DMB-FA. Only payments for materials, equipment, and services directly related to the Project will be allowed, subject to the review and approval of DMB-FA.
- B. The Project Agent shall not expend funds from the total authorized cost of the Project established pursuant to 20__PA__ for Phase I and Phase II environmental surveys nor for site environmental cleanup.

- C. The Project Agent shall not expend funds from the total authorized cost of the project established pursuant to 20__PA__ for University employees and/or staff performing construction, construction management services, or project inspections.
- D. The Project Agent shall receive approval from the DMB-FA prior to expending funds from the total authorized cost of the Project established pursuant to 20__PA__ for asbestos abatement, lead paint remediation and lighting ballast removal in remodeled areas of existing buildings.
- E. The DMB-FA shall charge a fee for document verification, audit, and expenditure review services. The Project Agent shall allow the DMB-FA, the DMB-FS, and the SBA access to expenditure records of the Project, as necessary to provide these services. The fee shall equal 1 percent of the total authorized cost established pursuant to 20__PA__, but shall be no less than \$75,000.00, and no more than \$500,000.00.
- F. The Project Agent shall submit evidence of payments certified by a University official, monthly, to the DMB-FA. The Project Agent shall use Attachment B in submitting such reports.
- G. The Project Agent shall assume the cash flow burden associated with issuing payments for the construction of the Project until all approvals and financing needed for the SBA share of the total authorized cost of the Project have been completed. Pending SBA reimbursement, the Project Agent shall authorize expenditures for more than the University share of the total authorized cost of the Project. Neither the State nor the SBA will reimburse the Project Agent for any costs incurred to meet cash flow requirements, including interest costs.
- H. The Project Agent shall assume responsibility for any costs incurred to bring the Project to satisfactory completion under Section VIII. (C). of the Agreement.
- I. The funding for the total authorized cost of the project established pursuant to 20__PA__ is available for expenditure for a period not to exceed 23 months after the Project is substantially complete, as determined by the issuance of a Certificate of Tenability, pursuant to section 248, 1984 PA 431.

Section IV. Property Ownership

- A. The Project Agent shall provide the DMB-FA with legal documentation that the Project will be located on a site owned by the University. The Project Agent shall use Attachment C in submitting such documentation.
- B. In Attachment C, the Project Agent shall also stipulate and provide legal documentation to support that the Project site is free of liens, easements or other title restrictions that would hinder development or prevent conveyance of free title to the SBA.

Section V. Environmental Conditions of Property

- A. The Project Agent shall provide the DMB-FA with documentation that the Project will be located on a site free of environmental contamination not more than 90 days after signing this Agreement.
- B. The Project Agent shall provide documentation supported by a Phase I environmental survey and, if required, a Phase II environmental survey as determined by the American Society for Testing Materials standard practice for E1527-97 Environmental Site Assessment.

- C. The Project Agent shall retain sole responsibility for any environmental contamination on the Project site and for any required cleanup of contamination. The Project Agent shall indemnify and hold harmless the DMB and the SBA, their agents, employees and representatives from any and all liability incurred as a result of or arising out of any environmental contamination.

Section VI. Plan Review

- A. The Project Agent shall ensure the Project will not exceed the design and program scope represented in the program statement and schematic design submitted to the DMB-FA and approved by the DMB Director and the State Budget Director on _____, 20____, and the JCOS on _____, 20____.
- B. The Project Agent shall ensure compliance with the approved program statement for the Project by reviewing preliminary plans and final construction documents, and confirming that the estimated budget for the Project does not exceed the total authorized cost established pursuant to 20____PA____.
- C. The Project Agent shall submit preliminary planning documents and detailed budget sheet for the Project to the DMB-FA for approval. The Project Agent shall use the format described in the Major Project Design Manual (most recent edition), prepared by DMB-FA, and Attachment D in submitting such documentation.
- D. The Project Agent shall submit final construction documents for the Project to the DMB-FA evidencing the Project is substantially unaltered from the approved preliminary planning documents.
- E. The DMB-FA shall notify the Project Agent of the approval of the final construction documents and authorize the Project Agent to begin a bidding process for the Project pursuant to section 242, 1984 PA 431.
- F. The Project Agent shall provide DMB-FA with a bid tabulation and itemized accounting of the total budget for the Project after receiving competitive construction bids and prior to awarding contracts. The itemized budget must indicate the Project can be completed within the total authorized cost established pursuant to 20____PA____. The itemized budget must be certified by a University official and by the architect for the Project. The Project Agent shall use the format in Attachment D (updated with bid results) in submitting this documentation.
- G. The DMB-FA shall report bid results to the JCOS.
- H. The DMB-FA shall notify the Project Agent of approval to proceed with the awarding of contracts pursuant to section 237a, 1984 PA 431.

Section VII. Project Management and Oversight

- A. The Project Agent shall provide day-to-day inspection of the Project construction.
- B. The Project Agent shall provide monthly progress reports during design and construction to the DMB-FA, including copies of meeting minutes, all change orders approved by the Project Agent, field orders and a description of any other changes to the final construction documents. The Project Agent shall use the format in Attachment E in submitting the construction progress reports. Reports will be due by the 20th of the month for the month preceding.

- C. The Project Agent shall ensure that contracts awarded by the Project Agent conform with the Project budget estimate and result in completion of the Project within the total authorized cost and in conformance with scope and purpose as approved by the DMB-FA.
- D. The Project Agent shall notify the DMB-FA of any meetings related to the Project to allow for DMB-FA attendance.
- E. The Project Agent shall allow the DMB-FA to observe on-site construction activities.
- F. The Project Agent shall provide the DMB-FA with access to shop drawings, field reports, meeting minutes, schedules, testing reports, payment records and other documents necessary to substantiate the status of the Project.
- G. The Project Agent shall report to the DMB-FA and to the SBA any event that adversely impacts the Project budget or completion schedule, including any claims or lawsuits, within two weeks of the occurrence of the event or legal filing. The Project Agent shall provide copies of claims and lawsuits to the DMB-FA.

Section VIII. Rescission of Project Agent Responsibilities

- A. The DMB-FA Project Manager shall notify the Project Agent when the Project Agent is not in compliance with provisions of the Agreement. If issues of non-compliance are not addressed by the University within two weeks of notification, DMB-FA Project Manager will call a meeting of the Project Agent, SBA, and Office of the State Budget for the purpose of developing a compliance plan. Failure on the part of the Project Agent to address issues within the timeframes outlined in the compliance plan will require notification to the DMB Director.
- B. The DMB Director shall provide written notification to the Project Agent, State Budget Director, and the JCOS when, in the reasonable opinion of the DMB Director, the status of the budget or the scheduled completion of the Project jeopardizes the financial interest of the State or the SBA.
- C. The Project Agent shall have thirty (30) days to resolve the specific issues outlined in the notification letter from the DMB Director.
- D. The DMB Director may take appropriate action to bring the Project to a satisfactory completion if the specific issues outlined in the letter from the DMB Director are not resolved to the reasonable satisfaction of the DMB Director. Any costs associated with such action shall be the responsibility of the University.

Section IX. Nondiscrimination

In connection with the Agreement, the Project Agent agrees to comply with the provisions of the Elliott-Larsen Civil Rights Act, 1976 PA 453, as amended, and the Michigan Handicappers' Civil Rights Act, 1976 PA 220, as amended, and specifically agrees not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, privileges of employment because of a handicap that is unrelated to the individual's ability to perform the duties of a particular job position, or because of race, color, religion, national origin, age, sex, height, weight, or marital status. Breach of this covenant may be regarded as a material breach of the Agreement.

Section X. Cancellation

The Project Agent acknowledges that the Agreement is subject to appropriation for the Project. In the event the Legislature fails to provide, or terminates, the funding necessary for the Project, the State may cancel the Agreement without further liability by providing written notice to the Project Agent thirty (30) days prior to the date of cancellation provided, however, that in the event that the action of the Legislature results in an immediate absence or termination of funding, cancellation may be made effective immediately upon delivery of written notification to the Project Agent. In the event of a termination, the Project Agent shall unless otherwise directed by the State in writing, immediately take all reasonable steps to terminate its operations and to avoid and/or minimize further expenditures under the Agreement.

Section XI. Governing Law

The Agreement shall be governed by the laws of the State of Michigan.

Section XII. Authorized Signatures

To evidence the Agreement set forth above, the Project Agent and the DMB execute the Agreement on the dates set forth below each signature.

_____ University

Department of Management and Budget

Signature and Title

Lisa Webb Sharpe, Director

Printed Name: _____

Date

Date

Created: (date)

Revised: (Date)

Office of the State Budget

Michigan Department of Management and Budget

**FORMAT FOR THE
CERTIFICATION OF MATCHING FUND AVAILABILITY
ON UNIVERSITY (U) AND COMMUNITY COLLEGE (CC)
CAPITAL OUTLAY PROJECTS**

[University/Community College Letterhead]

Date

Dear Project Manager, DMB-FA

I, _____, the _____ (e.g. Vice President of Finance), pursuant to the Project Management Agreement for the _____ (the "Project"), dated _____, certify to the following with respect to the University/Community College (University) funds on hand to satisfy the match requirements of the University Project cost share.

Funds on Hand

The University has in its possession the funds that fully satisfies the \$_____ match requirement for the Project. These funds are in the form of cash or investments that are readily accessible for construction expenditures.

BY: (University/Community College)

Signature

Date

Printed Name: _____

Monthly Paid Expenditure Report

- The following is a format to be used by the colleges and universities to report direct expenditures made by the college or university on major capital outlay projects.
- Also included is a Certification Memorandum statement requested as part of the monthly paid expenditure report.
- The college and/or university shall supply this report to DMB-FA, monthly, clearly stating the period ending, organized in budget categories, and attaching supporting documentation. Supporting documentation should include a copy of the invoice and evidence of University/Community College payment.
- DMB-FS will compute the reimbursement amount. Please do not include any unreimbursed amounts from previous months in your current monthly detail.
- Reports are to be submitted monthly once you begin incurring any project expenses, even if you have not yet receiving any reimbursements. The expenditures will accumulate in a timely manner and once you meet your match, reimbursement will be much quicker.
- It is not necessary to compute expenditure reporting to exactly meet the match amount. DMB-FS will note that the match has been met and will begin reimbursement at whatever amount exceeds the match.
- Projects under one Appropriation, but being done in different phases must be reported separately. This will ensure the U/CC is reimbursed on a timely basis for each phase of the project.
- It is the intent of the DMB to have a 14 day turn around time on your requests for reimbursement. DMB similarly requests the same turnaround time from the colleges and universities for project expenses paid to the State of Michigan.

<u>ATTACHMENT B</u>

REQ. NO. _____
DATE: _____**MEMORANDUM**

TO: Department of Management and Budget
Facilities Administration, Design and Construction Division
FROM: (University/Community College)
SUBJECT: _____
(project name)

This Requisition, in the total amount of \$_____, is to be advanced from the State's General Fund for (university/community college)'s expenditures relating to the State Building Authority's share of the cost of the above-referenced project. Detail of (university/community college)'s expenditures are contained in the attached supporting documentation. Please remit the payment of \$_____ to (university/community college) at the following address:

With this request, (university/community college) hereby certifies that::

1. This Requisition is being made for costs which would be properly chargeable to the Authority and has not been the basis of a previous payment.
2. The cost to (university/community college) represented by this Requisition is not less than the amount to be paid thereunder.
3. All Bills of Sale necessary to vest title to the portion of the facility covered by this Requisition in the Authority have been executed and delivered or assigned to (university/community college).
4. Nothing has occurred to the knowledge of (university/community college), which prevents (university/community college) from entering into the lease with the State and Authority.
5. The project cost, as authorized by the Legislature, is sufficient to complete a tenantable facility, as contemplated by the proposed Authority lease.
6. Estimated completion date of the facility is _____.

APPROVED BY FACILITIES ADMINISTRATION,
DESIGN AND CONSTRUCTION DIVISION

BY: _____ DATE: _____

BY: _____
TITLE: _____

(university/community college)

MONTHLY PAID EXPENDITURE REPORTAttachment B

OZONE University - Phase I
 New Science Complex
 File Number: 332/00365.XYX
 Index Numbers: 52013-52015

Report No.2
 Period Ending 12/31/00

DATE PAID BY COLLEGE	CATEGORY (FROM BUDGET)	CONTRACTOR/VENDOR	DOCUMENT NUMBER	AMOUNT
PROFESSIONAL SERVICES AND CODE REVIEW				
12/9/2000	Arch/Engin/Code Review	Great Architects, Inc.	WO53013	\$13,193.96
12/9/2000	Quality Control Testing	Cautious Testers Co.	WO56557	\$2,833.29
12/9/2000	Consultant	Fine Engineering, Inc.	WO61030	\$2,645.26
Total Professional Services and Code Review – Phase I				\$18,672.51
CONSTRUCTION AND SITE IMPROVEMENTS				
12/17/2000	Construction	Careful Construction, Inc.	WO58734	\$1,363,998.86
FURNISHINGS				
12/13/2000	Furnishings	Sicherself, Down & Co.	PO60299	\$17,595.00
12/11/2000	Furnishings	Techno Scientific Co.	PO57260	\$13,768.00
Total Construction and Furnishings – Phase I				\$1,395,361.86
AMOUNT of DIRECT EXPENDITURES to be APPROVED by DMB-FA for Period Dec. 1 - Dec. 31, 2000				\$1,414,034.37
Previously submitted for approval through 11/30/2000				\$1,323,414.62
TOTAL DIRECT EXPENDITURES as of DECEMBER 31, 2000				\$2,737,458.99

**FORMAT FOR THE
CERTIFICATION OF PROJECT SITE OWNERSHIP ON
UNIVERSITY (U) and COMMUNITY COLLEGE (CC)
CAPITAL OUTLAY PROJECTS**

[University/Community College Letterhead]

Date

Dear Project Manager, DMB-FA

I, _____, the _____ (e.g. Vice President of Finance), pursuant to the Project Management Agreement for the _____ (the "Project"), dated _____, certify to the following with respect to the University/Community College (University) proof of ownership of the Project site.

Proof of Ownership

The University is the current owner of the Project site, and the University's ownership of the Project site is free and clear of any restrictions that would prevent the University from conveying clear title to the State Building Authority. These restrictions include, but are not limited to, rights of reversion, rights of re-entry, mortgages, liens, life estates, leases, easements, rights of way, divested mineral rights, contract rights or third party rights. If any such restrictions or any ownership defects are discovered after the date of this certification, the University acknowledges that the restrictions and defects must be eliminated (or modified to the satisfaction of the State Building Authority) before the State Building Authority advances funds for the Project.

BY: (University/Community College)

Signature
Printed Name:

Date

BUDGET (All columns must be completely filled out)				
PROJECT:				
CATEGORY	Actual Amounts When Bids are Received	Budget for New Construction	Budget for Renovation	Total Budget Number
PROFESSIONAL SERVICES:				
Architectural or Engineering	\$	\$	\$	\$
Surveys and Site Investigations				
Quality Control Testing				
Construction Management				
Commissioning				
CONSTRUCTION:				
Structures-Gen/Mech/Elect/Etc. (BID AMOUNT)	\$	\$	\$	\$
Services/Utility Extensions to Site				
Site Improvements				
Code Review/Permits Paid by: _____				
Asbestos Abatement (if applicable)				
Other Costs/Commitments				
Telecommunications				
Furnishings/Equipment				
Contingency (A Minimum of 7% of Estimated Construction Cost must be shown at time of construction bid acceptance)				
DMB-FA Fee *				
TOTAL PROJECT AUTHORIZATION/COST	\$	\$	\$	\$

DMB-FA Fee* When the U/CC designates DMB-FA to provide management and construction oversight of the project, the DMB-FA fee is 1.5% of the authorized project cost. When the U/CC self-manages the project, the fee is 1% of the authorized project cost (with a minimum fee of \$75,000 and maximum of \$500,000).

**FORMAT FOR THE
MONTHLY PROGRESS REPORT ON
UNIVERSITY (U) AND COMMUNITY COLLEGE (CC)
CAPITAL OUTLAY PROJECTS**

I. Executive Summary:

- A. A brief description of the project.
- B. A written summary of the Progress to Date, including a listing of any problems that may cause delay or additional cost to the project and project completion percentage.
- C. A written summary of the Project Budget indicating the authorized project funds, amounts encumbered, (under contract), change orders increasing or decreasing the contract amount, project and construction contingencies, and pending changes to the contracts.
- D. A written summary of the project schedule.

II. Project Status Report Attachments:

- A. Review of current status.
 - 1. Architecture and Engineering.
 - 2. Construction, including average daily on site construction personnel and status of work in progress broken, down by trades and project safety report.
 - 3. Identify issues that may have an impact on the project schedule.
- B. A Project Data Sheet with budget breakdown for the following categories (see Budget Sheet):
 - 1. The structure (general, mechanical, electrical) with a separate line item for telecommunications.
 - 2. Services from five feet outside of structures (sewers, water supply, gas, electrical service, etc.).
 - 3. Site improvements (roads, walks, grading, etc.).

4. Furnishings (furniture, movable equipment, etc. not considered a part of the structure nor requiring fixed mechanical and/or electrical services).
 5. Professional fees, surveys, site investigations, fees for project management consultants, etc.
 6. Project contingencies.
 7. Total project cost (cannot exceed authorized appropriation).
- C. Each of the above categories is to be broken down further to reflect the following:
- | | |
|-------------------------|-------------------------|
| Approved Budget (dated) | Current Contract Amount |
| Bids | Payments to Date |
| Initial Contract Amount | Balance to be Paid |
| Change Orders | |
- Each of the trades, material suppliers, subcontractors, code review fees, telecommunications, etc. amounts are to be listed as line items and broken down.
- D. A Change Order Report listing the following:
1. The Change Order Number
 2. Change Order Title
 3. Explanation
 4. Amount
- E. A Request for Information (RFI) Log.
- F. An original approved, (submitted at the start of construction) and an updated Project Schedule indicating all activities for the project.

**STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
FACILITIES ADMINISTRATION,
DESIGN AND CONSTRUCTION DIVISION**

DESIGN MANUAL APPENDIX FIVE

**PRELIMINARY/DESIGN DEVELOPMENT
SUBMISSION REQUIREMENTS**



Revised JULY 2006

APPENDIX FIVE – PRELIMINARY/DESIGN DEVELOPMENT SUBMISSION REQUIREMENTS

Phase 400 - Preliminary/Design Development Submission

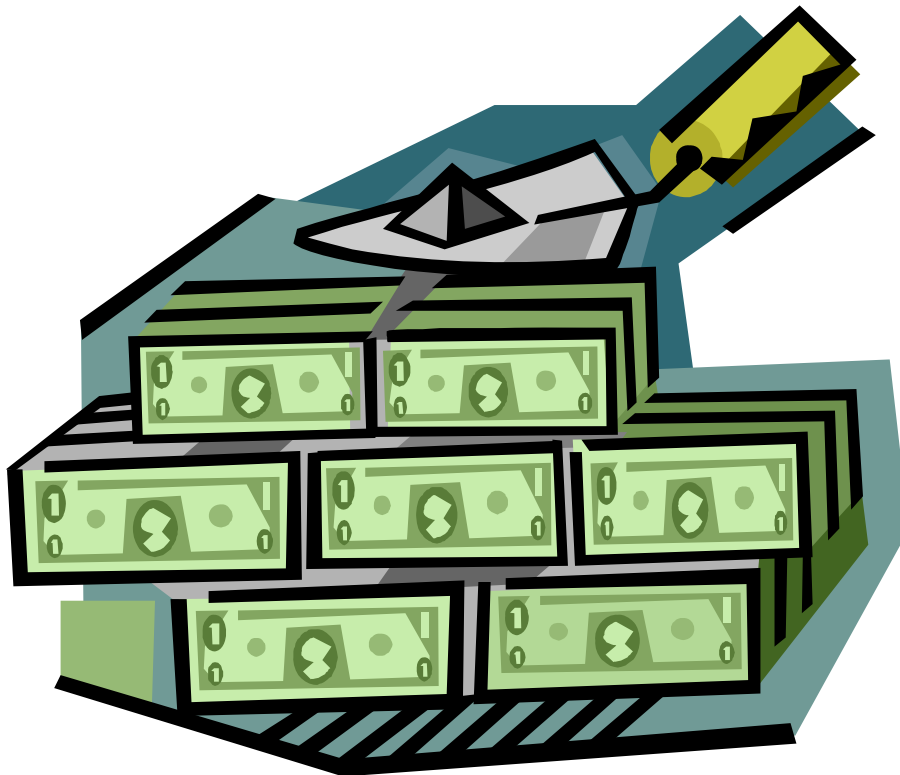
The Project Management Agreement between a University/Community College and the Department of Management and Budget must be signed and in place before submitting the Preliminary/Design Development Submission. Submit three (3) copies of the Design Development Submittal to the DMB-FA for approval in accordance with the Capital Outlay Manual and Design Manual. Allow a minimum of three weeks for review and approval.

- A. Introduction: Update from Program/Schematic Submission, incorporating the results of the Preliminary/Design Development Submission. Outline changes to approach, design, program, and project from the previous submission. Discuss the instructional goals (for U/CC projects) or operational goals (for State Agency projects) of the project. Include a short justification for the project. Describe the proposed project, summarizing the result of the preliminary/design development phase. Describe planned phases or project components.
- B. Phase I Environmental Report: Provide a copy of the Phase I Environmental Report per the requirements of the Management Agreement. This report may be provided in advance of the total Preliminary/Design Development Submission, but should be provided within 90 days after the Management Agreement is signed.
- C. Proof of Ownership and Matching Funds: Provide a copy of the Proof of Ownership and Matching funds per the requirements of the Management Agreement. This copy may be provided in advance of the total Preliminary/Design Development Submission but must be in place before requesting authorization to bid.
- D. Net and Gross Areas: Updated from Schematic Design Submittal in accordance with findings and results of design development phase. Establish net to gross efficiency ratios for building type. Only for particular project types such as hospitals and laboratories may the net to gross ratio be less than 60 percent – see “Net to Gross Ratio Guidelines,” in Appendix 7.
- E. Building Capacity: Updated summary tabulation based on capacities established in Schematic Design. List the capacity of the building in terms of students, beds, patients, inmates, staff, work stations, books, etc.
- F. Outline Specifications: Include architectural, structural and mechanical/electrical systems criteria, descriptions and operating modes and limitations.
- G. Furnishings List: By item and department as developed by the State Agency, University, or College.
- H. Project/Program Cost: Provide cost estimate with total project cost as well as individual phases. Use Project Data Sheets (Appendix 7) for format.
- I. Design and Construction Schedule: By month and year, indicating schedule of proposed submittals, bidding, award, and construction. Show projected bidding schedule with bidding phases. See Appendix 7 for format.
- J. Annual Operating Budget: Show projected costs of utilities, insurances, janitorial/maintenance services, window washing, security, etc.

- K. Approvals: Program, program amendments, and applicable approval letters from U/CC, State Agency, DMB-FA, DMB Budget Office.
- L. Drawings: (May be half-size or foldout in 8-1/2" x 11"):
- a. Location Map
 - b. Legal Description
 - c. Existing Conditions Site Plan showing only (except delineate in proposed structure) existing physical features including topography and all overhead and underground utilities (same scale and orientation as following Site Plan)
 - d. Site Plan(s) showing soil boring data, landscape layout, erosion and sedimentation control, location and sizes of proposed structures and related roads, walks utilities, services, grading, and other significant features.
 - e. Floor Plans at appropriate scales, including room names and area figures in each room. Show the essentials of built-in equipment and movable furnishings.
 - f. Elevations developed with materials and heights.
 - g. LEED checklist.
 - h. Basic building cross-sections.
 - i. Primary wall sections.
 - j. Floor Plans showing all structural systems and utilities systems shafts.
 - k. Preliminary single-line mechanical/electrical diagrammatic concept.

**STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
FACILITIES ADMINISTRATION,
DESIGN AND CONSTRUCTION DIVISION**

**DESIGN MANUAL APPENDIX SIX
ALLOWABLE CHARGES AGAINST TOTAL PROJECT COST**



Revised JULY 2006

APPENDIX SIX – ALLOWABLE CHARGES AGAINST TOTAL PROJECT COST

The Michigan Legislature appropriates monies towards the project with the intention that those monies will be spent towards the design and construction of an instructional building. The State Agency, University, or College is expected to bear other costs as part of their operating expenses for which other appropriations have already been made. The intention, as well, is for a project to result in an occupiable, fully furnished building. In addition, requirements of the bonding providing the financing for the project require that certain costs not be charged against the total project cost.

A list of allowable and non-allowable charges against Total Project Cost follows. Should there be any questions, please contact the Project Manager for information. Adherence to these guidelines will prevent delays in reimbursement throughout the course of the project. The local (University or College) share is considered an appropriation and is subject to the determination of allowability

A. Allowable Charges:

1. Professional Design, Survey, Architectural, and Engineering Services
2. Professional Inspection and Testing Services
3. Audit Review (out of DMB-FA fee)
4. Insurances
5. Moving expenses to move operations out of remodeling or construction area
6. Specialized Consultants -- programming, furniture, communications, acoustical, legal, and environmental contractual services - verify prior to charging or hiring with DMB-FA
7. Construction Trades, including general conditions
8. Utilities to construction site and within construction site
9. Site work (walks, drives, landscaping)
10. Equipment
11. Furniture, furnishings
12. Demolition (for renovation only) of U/CC buildings
13. Telecommunications, computer networks, computers
14. Advertisement for Bids
15. Plan Review Fees

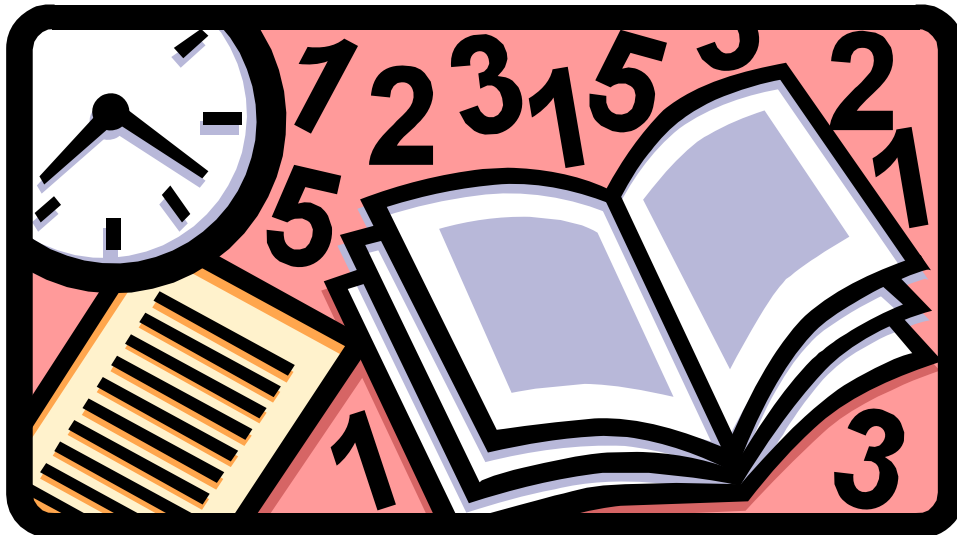
B. Non-allowable charges:

1. Land Purchase Cost
2. Fundraisers, promotional costs
3. Renderings, models
4. Ground breaking event costs
5. Force Account labor (work performed by any University/College staff or student labor during regular working hours or in overtime whether limited term or otherwise)
6. Relocation expenses (rent on temporary space, relocation consultants)
7. Moving expenses to move operations into the completed space or move operations within campus or other Agency building
8. Parking meters
9. Artwork, sculptures, fountains, non-instructional displays
10. Cost of preparing Phase I Environmental Study and/or subsequent environmental studies
11. Cost of title search
12. Bonding, legal or loan costs associated with local share raising.
13. Alcoholic beverages, food, drink
14. Investigation or research travel by University committee members
15. Office equipment, computers, office furniture if not installed in the project building
16. Software
17. University/college overhead - phones, internal printing, copying, utilities, motor pool vehicles, staff expenses, including overtime
18. Charges incurred prior to planning authorization
19. Demolition of a prior building to clear site for construction
20. Internal University or Community College Administrative Fees
21. Repair or maintenance of the building.

**STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
FACILITIES ADMINISTRATION, DESIGN AND CONSTRUCTION
DIVISION**

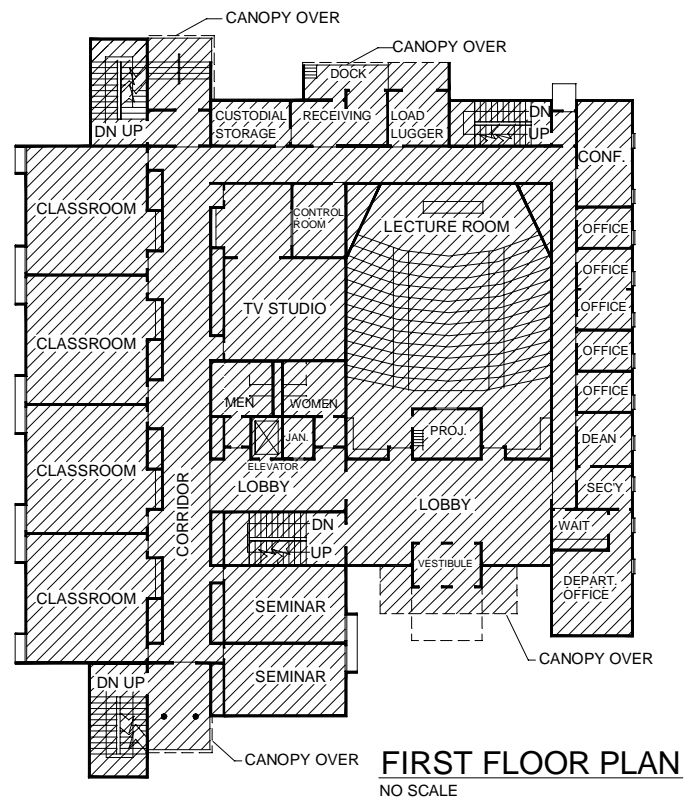
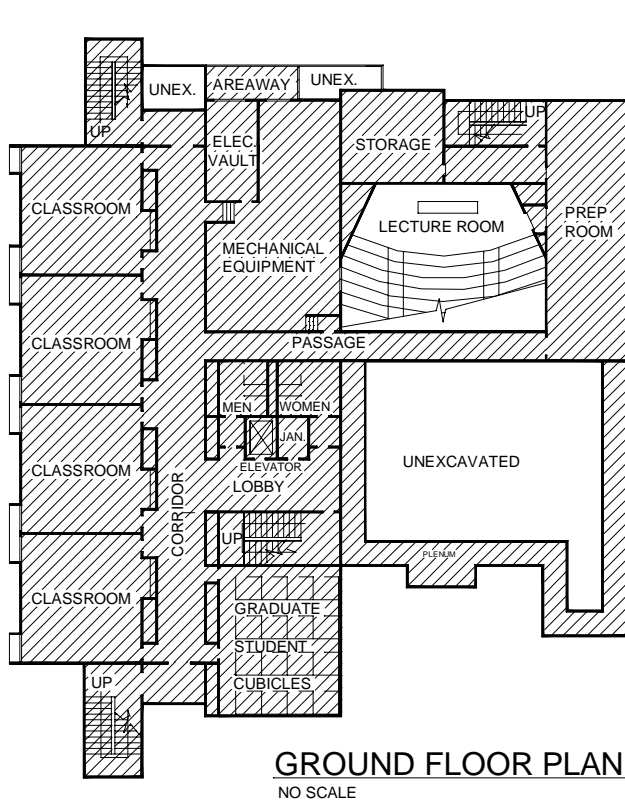
DESIGN MANUAL APPENDIX SEVEN

AREA CALCULATIONS – DATA SHEET(S)



Revised JULY 2006

APPENDIX SEVEN – AREA CALCULATIONS, DATA SHEET(S)

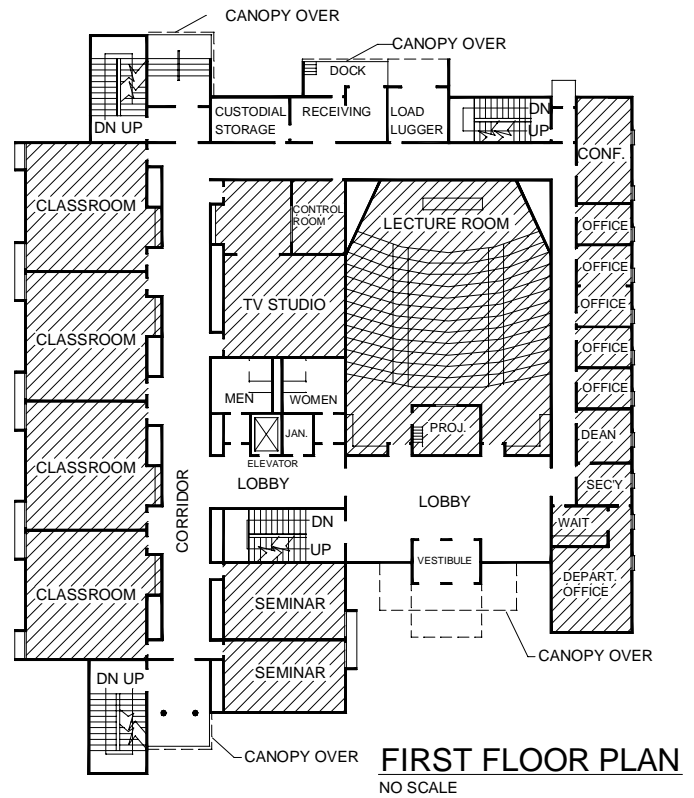
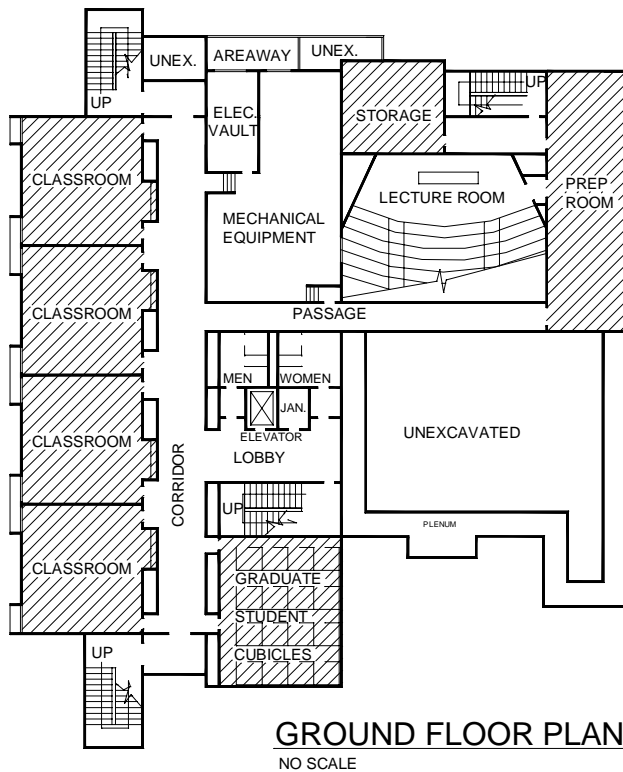
**Gross Area**

Definition: Gross area shall be construed to mean the sum of the floor areas included within the outside faces of exterior walls for all stories or areas which have floor surfaces.

Basis for Measurement: Gross area shall be computed by measuring from the outside face of exterior walls, disregarding cornices, pilasters, buttresses, etc., which extend beyond the wall face.

Description: In addition to floored spaces obviously covered above, gross area should include basements (except unexcavated portions), attics, garages, enclosed porches, penthouses and mechanical equipment floor, lobbies, mezzanines, all balconies (inside or outside) used for operational functions, and corridors, provided they are within the outside face lines of the structure. Roofed loading or shipping platforms should be included whether within or outside the exterior face lines of the structure.

Limitations: Open courts and light wells, or portions of upper floors eliminated by rooms or lobbies which rise above single floor ceiling height, shall not be included in the gross area, nor shall unenclosed roofed-over areas or floored surfaces with less than 6'-6" clear headroom be included, unless they can properly be designated and used as either net assignable, mechanical, circulation, or custodial areas.



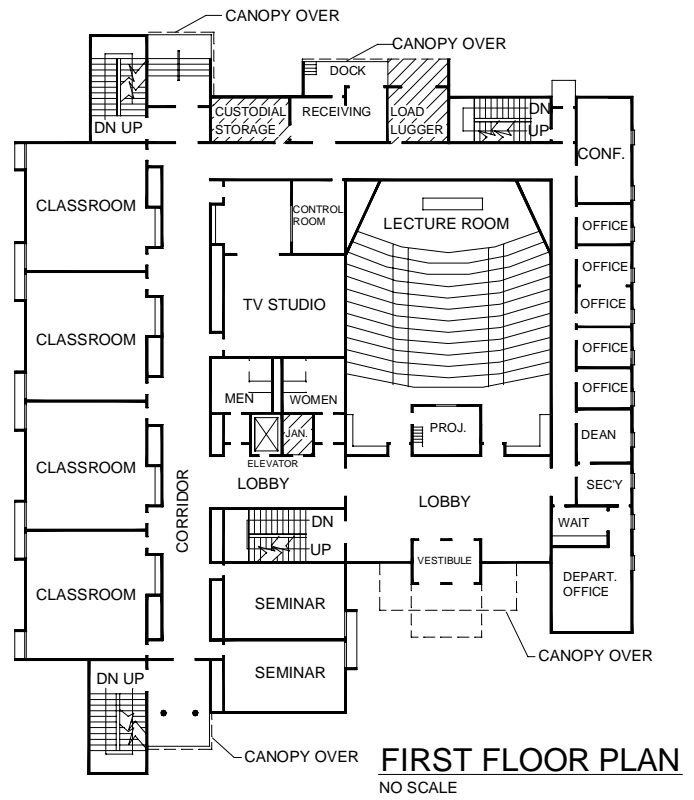
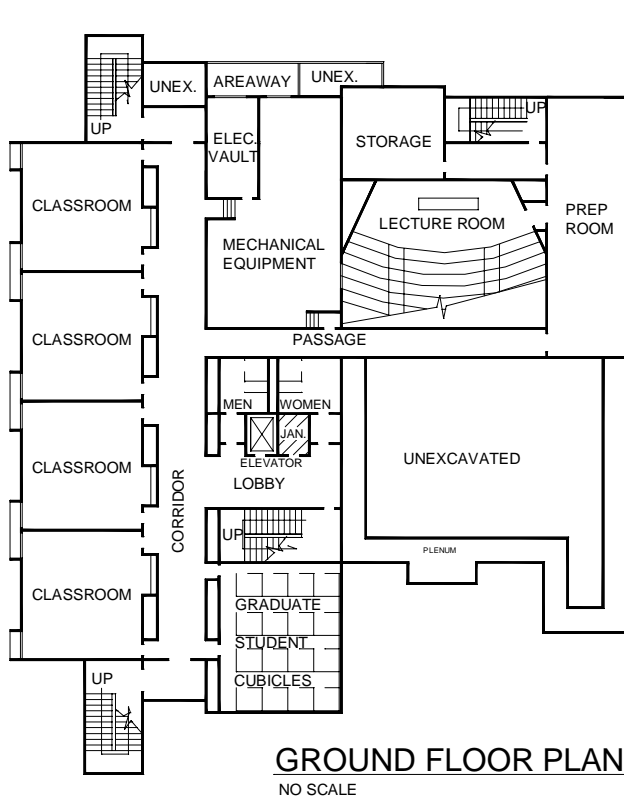
Net Assignable Area

Definition: Net assignable area shall be construed to mean the sum of all areas on all floors of a structure assigned to, or available for assignment to, an occupant, including every type of space functionally usable by an occupant (except those spaces elsewhere separately defined in custodial, circulation, and mechanical area classifications).

Basis for Measurement: All net assignable areas shall be computed by measuring from the inside finish of permanent outer building wall, to the office side of corridors and/or to permanent partitions.

Description: Included shall be space subdivisions for offices, classrooms, laboratories, seminar and conference rooms, libraries, file rooms, storage rooms, etc., including those for special purposes (e.g., auditoriums, cafeterias, TV studios, faculty and student locker and shower rooms, maintenance and research shops, garages), which can be put to useful purposes in accomplishment of the institution's mission.

Limitations: Deductions shall not be made for columns and projections necessary to the structure.



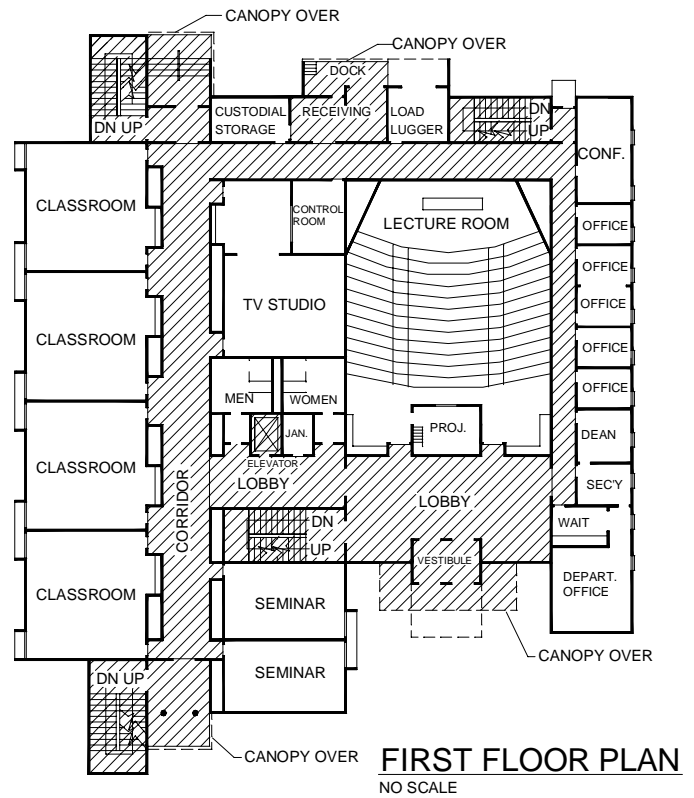
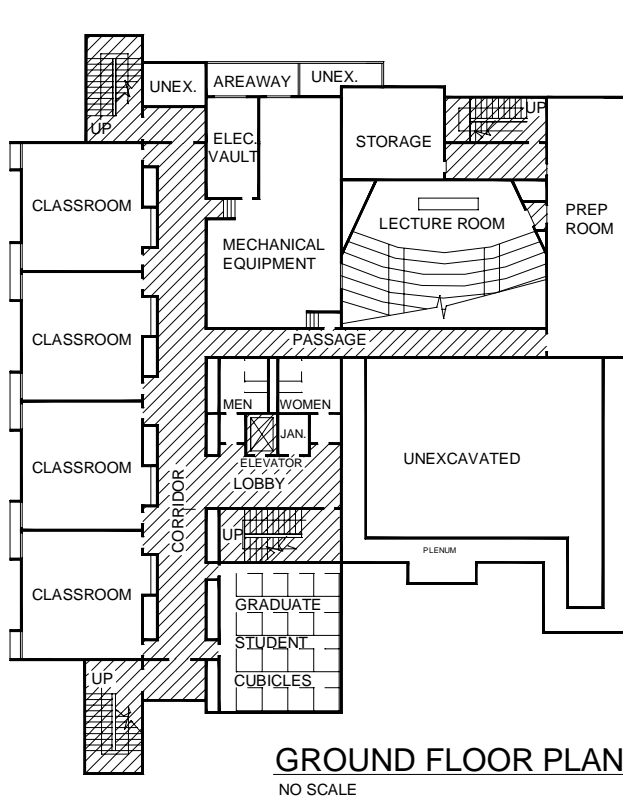
Custodial Area

Definition: Custodial area shall be construed to mean the sum of all areas on all floors of a structure used for protection, care, maintenance and operation.

Basis for Measurement: These areas shall be measured from the inside surfaces of enclosing walls.

Description: Included shall be such areas as custodial, locker rooms, janitor's closets, and maintenance rooms.

Limitations: Deductions shall not be made for columns and projections necessary for the structure.



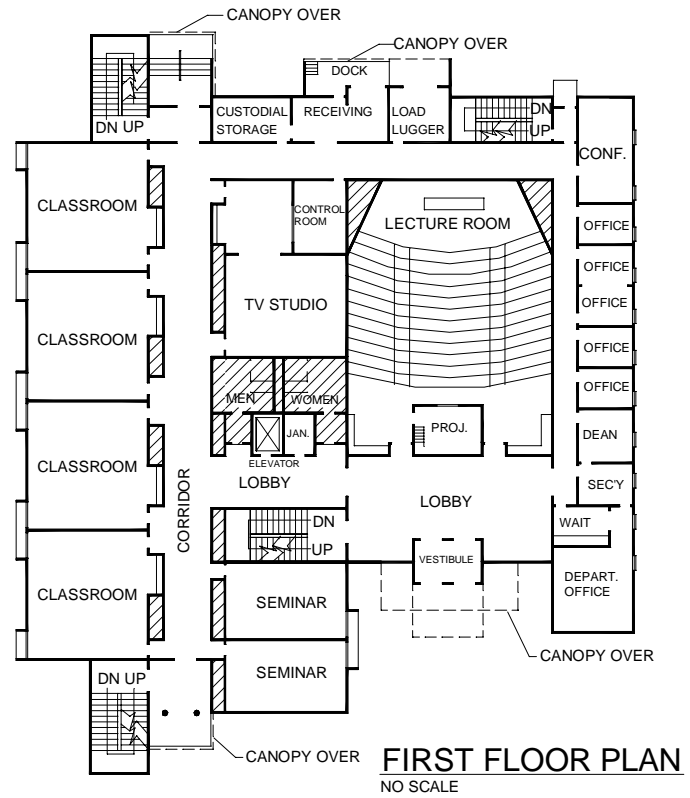
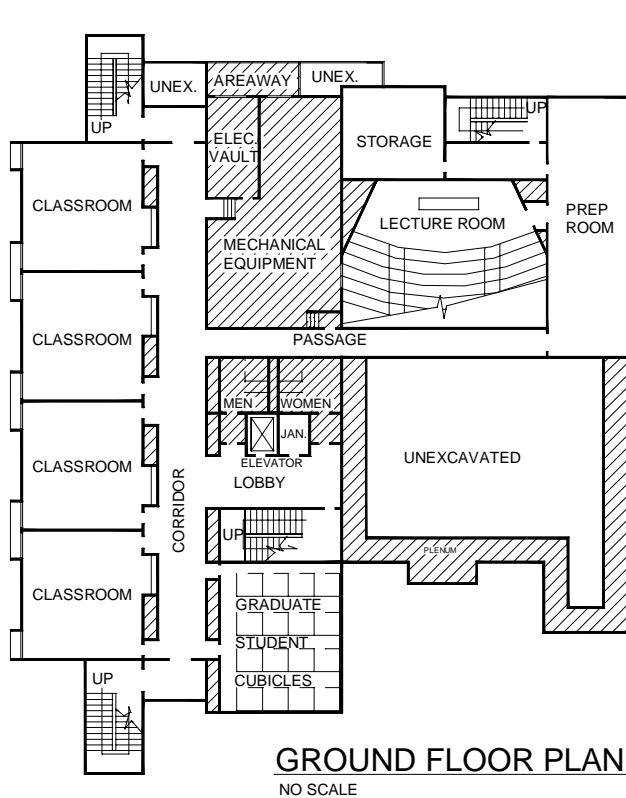
Circulation Area

Definition: Circulation area shall be construed to mean that portion of the gross area (whether or not enclosed by partitions), which is required for physical access to some subdivision of space.

Basis for Measurement: Circulation area shall be computed by measuring from the inner faces of the walls or partitions which enclose horizontal spaces used for such purposes; or, when such spaces are not enclosed by walls or partitions, measurements shall be taken from imaginary lines which conform as nearly as possible to the established circulation pattern of the structure.

Description: Circulation areas shall include, but not be limited to: corridors (access, public, service, also "phantom" for large unpartitioned areas); elevator shafts; escalators; fire towers or stairs; stairs and stair halls; loading platforms (except where required for operational reasons and thus includable in net assignable area); lobbies (elevator, entrance, public, also public vestibules); tunnels and bridges (not mechanical).

Limitations: When assuming corridor areas, only horizontal spaces required for general access shall be included, not aisles which are normally used only for circulation within offices or other working areas. Deductions shall not be made for columns and projections necessary to the structure.



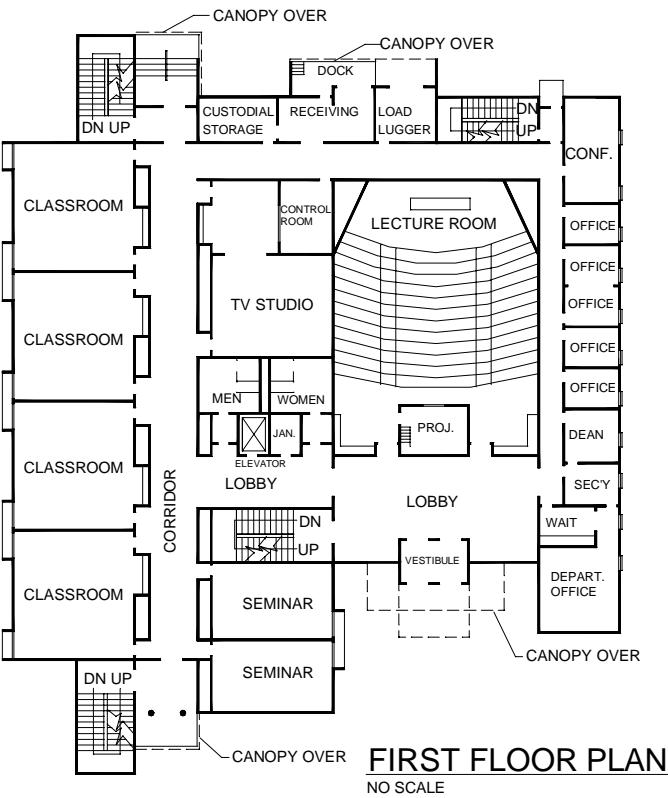
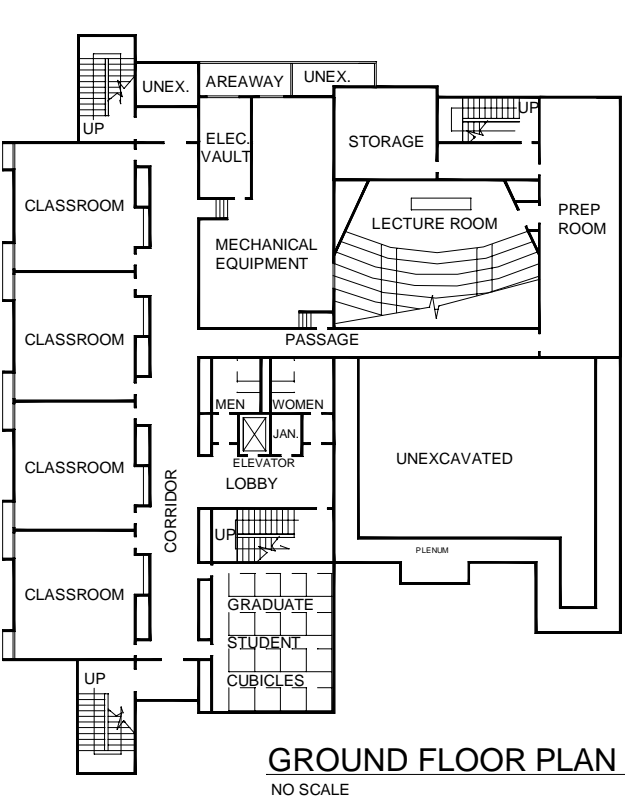
Mechanical Area

Definition: Mechanical area shall be construed to mean that portion of the gross area designed to house mechanical equipment, utility services, and non-private toilet facilities.

Basis for Measurement: Mechanical area shall be computed by measuring from the inner faces of the walls, partitions, or screens that enclose such areas.

Description: Mechanical areas shall include, but not be limited to: Air duct shafts; boiler rooms; fixed mechanical and electrical equipment rooms; fuel rooms; mechanical service shafts; meter and communications closets; service chutes; stacks; and non-private toilet rooms (custodial and public).

Limitations: Deductions shall not be made for columns and projections necessary to the structure.



Construction Area

Definition: Construction area shall be construed to mean that portion of the gross area which cannot be put to use because of the presence of structural features of the structure.

Basis for Measurement: Precise computation of construction area is not contemplated under these definitions. Some construction features are included in the computation of other areas. However, total construction area shall generally be determined by assuming it to be the residual area after the net assignable, circulation, custodial, and mechanical areas have been subtracted from the gross area.

Description: Examples of areas normally classified as construction area are exterior walls, firewalls, permanent partitions, and unusable areas in attics, basements, or comparable portions of the structure.

Computation of Construction Area:

Gross Area	34,578 Square Feet	100.0 Percent
Net Assignable Area	15,596	45.1
Circulation Area	10,385	30.0
Custodial Area	577	1.7
Mechanical Area	4,186	12.0
Construction Area	3834 Square Feet	11.2 Percent

PROJECT DATA SHEET

(If project has several phases or parts, provide a data sheet for each part, as well as a total)

SUBJECT: File No.
 Department/Agency/Facility/University/Community College
 Scope of Work/Project Description
 City, Michigan

Enter Schematics or Preliminaries prepared by: (Enter Name of Architectural/Engineering Firm)

Estimated Cost of:

1. The structure (General, mechanical, electrical, fixed equipment, and contingencies)..... \$ _____
 1. a. Telecommunications (incl. above) \$ _____
2. Services from five feet outside of the structure (Sewers, water supply, etc.)..... \$ _____
3. Site improvements (Roads, walks, grading, etc.) \$ _____
4. Architectural/Engineering fees, surveys, site investigations, State supervision (if applicable) etc. \$ _____
5. DMB fee* \$ _____

Design and Construction cost per gross sq. ft. (1 thru 4 ÷ gross sq. ft.)... \$/gross sq.ft.

6. Furnishings (Furniture, movable equipment, etc., not considered a part of the structure nor requiring fixed mechanical and/or electrical services) \$ _____
7. Other (i.e., asbestos abatement)..... \$ _____
8. Total estimated project cost, bid _____
 Month Year \$ _____

Total project cost per gross sq. ft. (1 thru 6 = 7 ÷ gross sq. ft.)..... \$/gross sq. ft.

Total net square feet _____

Total gross square feet _____

Building design efficiency (ratio of net/gross) _____

Building occupant design capacity _____

Parking spaces provided _____ Ratio of occupant/parking space _____/space

* DMB Fee: When the U/CC designates DMB-FA to provide management and construction oversight of the project, the DMB-FA fee is 1.5% of the authorized project cost. When the U/CC self-manages the project, the fee is 1% of the authorized project cost (with a minimum fee of \$75,000 and maximum of \$500,000).

ANNUAL OPERATING BUDGET

SUBJECT: File No.
 Agency/Department/Facility/University/Community College
 Project Name
 City and State

NET AND GROSS AREAS/VOLUME

SUBJECT: File No.
 Agency/Department/Facility/University/Community College
 Project Name
 City and State

1.	*Gross Area	_____	square feet
2.	Net Assignable Area	_____	square feet
3.	Custodial Area	_____	square feet
4.	Circulation Area	_____	square feet
5.	Mechanical Area	_____	square feet
6.	Construction Area	_____	square feet

*Ratio of net assignable area in 2. above to gross area in 1. is () percent.

*Volume _____ cubic feet

Net assignable area in program statement and schematic plans is from one approved by the Department of Management and Budget and Joint Capital Outlay Subcommittee. Gross area in 1. above is equal to the sum of all other areas (2. through 6.). Definitions of various areas are available from Facilities Administration, Design and Construction Division and are from Federal Construction Council, Task Group T-56, Classification of Building Areas, Washington: National Academy of Sciences--National Research Council, 1964 (copies available from the Facilities Administration, Design and Construction Division).

*Limited to three significant figures.

DESIGN AND CONSTRUCTION SCHEDULE

SUBJECT: File No.
 Agency/Department/Facility/University/Community College
 Project Name
 City and State

Program Analysis	(Month/Year)
Schematic Design	(Month/Year)
Review and Joint Capital Outlay Subcommittee/ Department of Management and Budget Approval	(Month/Year)
Preliminary Design	(Month/Year)
Review and Department of Management and Budget Approval	(Month/Year)
Final Design	(Month/Year)
Review and Department of Management and Budget Approval	(Month/Year)
Bid	(Month/Year)
Review and Department of Management and Budget Approval	(Month/Year)
Award	(Month/Year)
Construction Commences (add phase breakdown if appropriate)	(Month/Year)
Occupancy	(Month/Year)

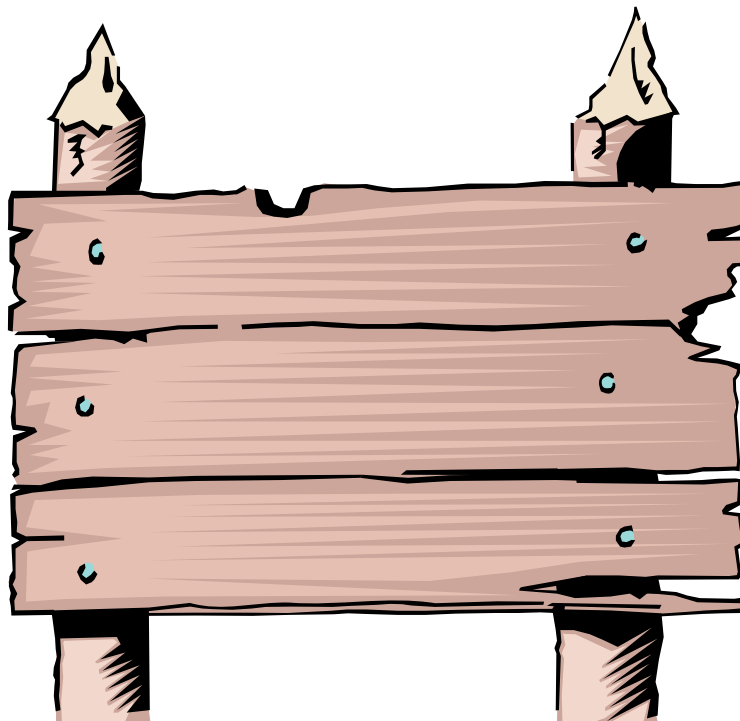
NET TO GROSS RATIOS GUIDELINES
FOR VARIOUS BUILDING TYPES

<u>BUILDING TYPE</u>	<u>NET TO GROSS RATIO</u>	<u>EFFICIENCY</u>
Administrative	1.50	67%
Auditorium	1.42	70%
Biology	1.61	62%
Chemistry	1.70	59%
Classroom	1.51	66%
Courthouse	1.62	61%
Dining Hall	1.38	72%
Dormitory	1.54	65%
Engineering	1.64	61%
Garage	1.18	85%
Gymnasium	1.42	70%
Hospital	1.83	55%
Laboratory	1.71	58%
Library	1.32	76%
Office	1.35	75%
Science	1.67	60%
Service	1.20	83%
Warehouse	1.08	93%

**STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
FACILITIES ADMINISTRATION,
DESIGN AND CONSTRUCTION DIVISION**

DESIGN MANUAL APPENDIX EIGHT

PROJECT SIGNS



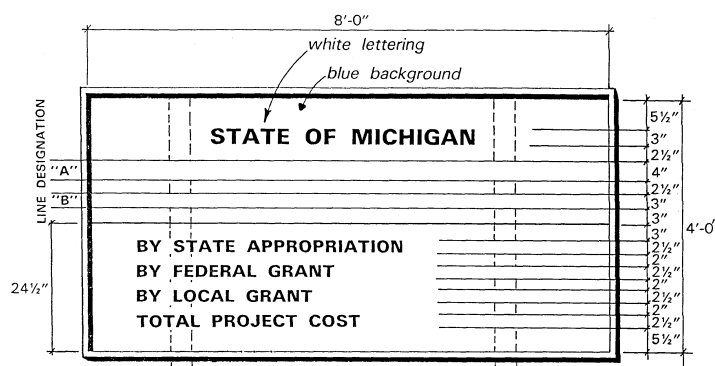
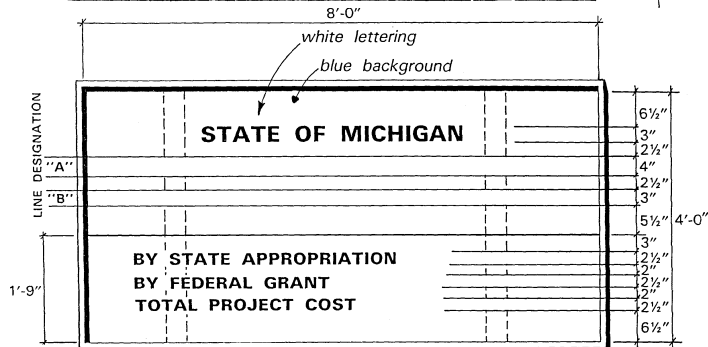
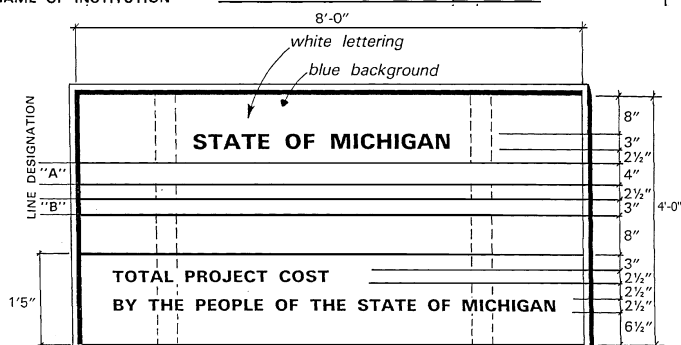
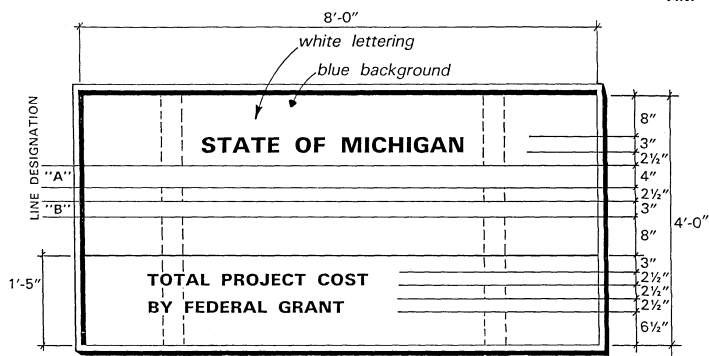
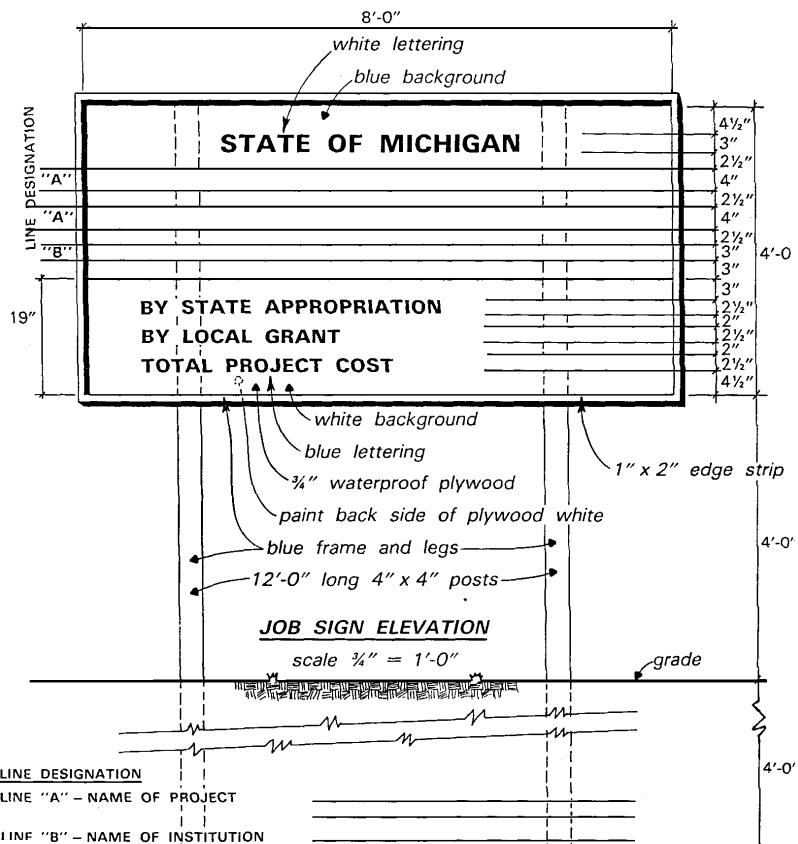
Revised JULY 2006

APPENDIX EIGHT – PROJECT SIGNS

PROJECT SIGNS:

Five examples of project signs.
Sign lettering corresponds with the funding arrangement of the project.
Alternate signs may be considered;
please contact the DMB-FA Project Manager.

Provide a photo of the sign in the
initial monthly report.



**STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
FACILITIES ADMINISTRATION,
DESIGN AND CONSTRUCTION DIVISION**

**DESIGN MANUAL APPENDIX NINE
CERTIFICATE OF TENANTABILITY EXAMPLE**



Revised JULY 2006

APPENDIX NINE – CERTIFICATE OF TENANTABILITY EXAMPLE

Certificate Of Tenantability

The Certificate of Tenantability must be completed by the University, Community College, or the Professional Service Contractor on their letterhead with the date the building was ready for occupancy (not necessarily the date the building project achieved Substantial Completion or a code official's Certificate of Occupancy). The Certificate of Tenantability should be sent to the DMB-FA Project Manager. The Certificate language is as required by the State Building Authority Lease and cannot be modified. If a portion of the project is completed prior to the completion date of the entire facility, a partial Certificate of Tenantability should be prepared.

(Univeristy, Community College or PSC Firm Letterhead)

**NAME OF AGENCY, UNIVERSITY, OR COMMUNITY COLLEGE
NAME OF PROJECT**

CERTIFICATE OF TENANTABILITY

This Certificate is being issued pursuant to Section 2.5 of the State Building Authority Lease for (NAME OF AGENCY, UNIVERSITY, OR COMMUNITY COLLEGE), (NAME OF PROJECT), (CITY), Michigan. The facility has been completed in accordance with the Plans, as defined in the Lease, and is as of (DATE), ready for occupancy.

All Costs of the Facility have been paid, except for such Costs which are not now due and payable and which are being contested or disputed by the (agency, university, community college). Notwithstanding the foregoing, this Certificate is given without prejudice to any rights against third parties which may exist at the date hereof or which may subsequently come into being.

(NAME OF University, Community College, or PSC FIRM)

Signature, title of principal or U/CC Officer

Date